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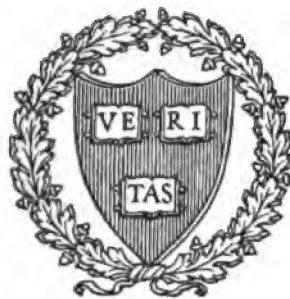
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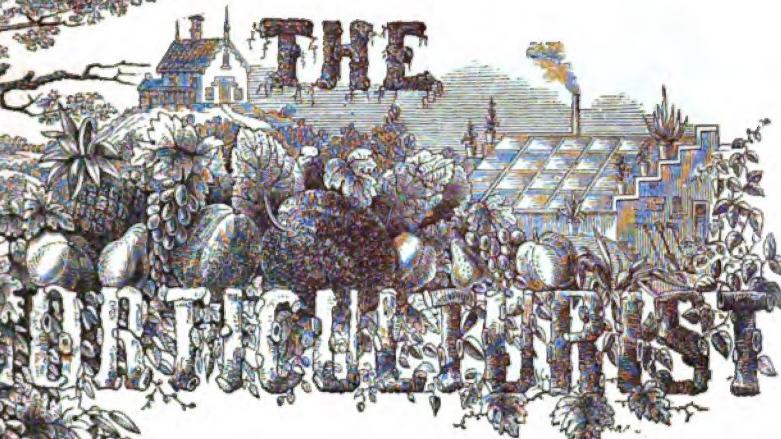
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JOURNAL

OF

Rural Art and Rural Taste,

DEVOTED TO

HORTICULTURE, LANDSCAPE GARDENING, RURAL ARCHITECTURE, BOTANY,
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HORTICULTURIST.

VOL. XIX.....JULY, 1864.....NO. CCXVII.

Taste versus fashion.

In Mr. John Henderson's very interesting essay on "Flowers," read before the Horticultural Association of the American Institute, and printed in our last number, there are some curious statistics in relation to the sale of cut flowers and plants in the principal cities of this country and Europe. Mr. Henderson shows, from his personal knowledge, that the sale of *cut flowers* in New York exceeds that of any other city; for example, London, Paris, Boston, Philadelphia, &c. We have no doubt that this is really so. He also shows that, in the matter of *pot plants*, the reverse of this is true. We have just as little doubt that this is also the fact. Now we are very much inclined to suspect that Mr. Henderson's facts and figures will lead some people to false conclusions, however illogical the statement may seem. For example, some will reason thus: The number of cut flowers sold indicates the taste for them; the number sold in New York exceeds that of any other city: therefore, the taste for flowers in New York exceeds that of any other city. The syllogism would seem to be perfect, and we are will-

ing to admit that it *ought* to be; but the truth is, it is very weak in its major premise. It is not, alas! a fact, that the sale of bouquets and cut flowers forms a true exponent of the taste for flowers, at least in large and wealthy cities. The sale points to something in that direction, no doubt, but it is not a true exponent upon which deductions may be safely based. A very little investigation that penetrates beneath the surface of things will discover, that the purchase of bouquets and cut flowers is governed a good deal by the love of display; the same motive, in fact, which causes one man to build his house a few inches higher than that of his neighbor. In a large proportion of cases, it is the ambition to excel one's neighbors in display. A gives a party, and spends a hundred dollars for bouquets and cut flowers. B determines to outdo A, and spends two hundred; and so the thing goes on. Hence, at large parties in New York, the chief thing talked of is the wealth of flowers that decorate the rooms. It has become fashionable to make an imposing display of flowers; and while the fashion

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continues, bouquets and cut flowers will be in great demand. We readily concede that the fashion is an elegant and innocent one, but we can not admit that it is an exponent of a taste or love for flowers. The majority of those who indulge in these imposing floral displays do not belong to our Horticultural Societies, and are quite innocent of any knowledge of horticultural literature, which could not be said of them if they were imbued with a true love of flowers. Indirectly, they do encourage horticultural pursuits in their lavish expenditures for flowers; but a wiser use of the same means would afford horticulture infinitely more encouragement, besides intensifying their own sense of personal enjoyment.

The sale of *plants*, on the contrary, we accept as a truer exponent of a love for flowers. In this particular, New York is behind London, Paris, Boston, &c., in all which places we find a refinement of taste in horticulture, which, to our shame be it said, we have not yet attained to. New York ought to lead in horticultural taste, as it does in many other important matters. We have made some progress within the past few years; but we move too slow.

We are hopeful, however, that a finer development will take place within the next five years.

We have said that the sale of *plants* is a truer exponent of taste than the sale of *flowers*. By taste here we mean that nice appreciation which can only result from a deep love of an object. Now who shows the most love of flowers, he who buys a bouquet to decorate an evening party, and then throws it aside, or he who buys a plant, ministers daily to its wants, studies its development of leaf, bud, and flower, and in all things cares for it "as the apple of his eye?" To our apprehension, there can be but one answer to such a question. There is just as much difference between the man who "keeps up a country seat" simply because it is fashionable to do so, and the man who adorns his grounds because he finds health and enjoyment in it. The one is pervaded with a love of horticulture, the other with a love of show. The example of the one is a shining light; the example of the other, the glitter of a toy.

The influences growing out of this condition of things we reserve for another occasion.

HEALTH AND DISEASE OF PLANTS.

BY J. STAYMAN, LEAVENWORTH, KANSAS.

HEALTH of plants is the harmonious development of all their parts in such a manner as to preserve and prolong their state of being for the purpose of fulfilling the objects of their existence. Therefore, whatever is done for the purpose of perpetuating that condition in a harmonious manner will produce the best possible results. As long as this state continues in equilibrium, one part can not be built up to the injury of another, and plants will have a strong vital action, and will be healthy. But whenever this state is suddenly interrupted or long continued in active by any cause, they will lose their

vital action and become diseased, and are then susceptible to deleterious influences, and are subject to be preyed upon by various obnoxious insects, which soon set up a secondary disease, which still hastens them more rapidly to destruction.

Species of plants, like races of animals, have their peculiar characteristic of quality and hereditary tendencies, by which they are known; consequently health is a *marked state* of existence, with peculiarities common to all vegetation, and disease must be directly the opposite. By these unerring rules of health and disease before us, we can tell with absolute certainty the

result of the sum total of any number of given cases in strong contrast with an equal number of other cases belonging to the same species.

The question may be asked, what are the visible signs of health and disease, and how can we ascertain them? In the first place, we shall endeavor to give some of the strongest marks of health, vigor, and endurance. In the second place, we shall give the strongest marks of those of opposite tendencies. To fully describe these two states to the satisfaction of every person will be very difficult, unless we take two extreme cases, which we will do, and then leave it partially to the judgment of each person to arrive at any particular medium case. For instance, there is no person but knows a living plant from one that is not living; likewise we all know when a plant is dying for the want of being placed in proper conditions to live. But how many of us know, by the peculiarities of the plant itself, that it has a strong vital principle, and has a constitution capable of resisting deleterious influences, and is not subject to hereditary disease?

When we see plants with robust, short-jointed, stocky form, and well matured wood, with dark-colored bark, twigs, and buds, with thick, strong, dark green leaves, and brilliant, high-colored, and beautiful opening flowers, and evenly developed, dark-colored fruit and very dark seed, we then behold the most perfect examples of health, and plants just sufficiently supplied with electricity, etc. Every plant has certain natural habits in a state of health or disease. The formation and growth of their roots, the inclination of their limbs and twigs, the shape of their buds, the unfolding of their leaves, the expansion and color of their flowers, the development and peculiarities of their fruit, the color of their bark, buds, and leaves, are all true marks of their condition, constitution, and health, which may be read and understood by any close observer.

Though they have not locomotion of body, the symmetry of form, pulsation of heart,

sensation of nerves, or so complete an organization, or instinct of animals, yet they grow, seek nourishment in the direction in which it is to be obtained, perform the functions of life, unfold and perfect their fruit, make ample provision for the continuation and progression of their species, and have as marked signs of health and disease as they have.

From the above remarks we make the following deductions. The darker the color of the bark, foliage, flower, and fruit, all other things being equal, the more hardy and healthy plants are, and the greater will be their capabilities to withstand the various vicissitudes of climate, whether it is the sudden and extreme change of temperature, unfavorable locations, or the direct rays of the sun. High, brilliant colored flowers do not fade as soon as others, and all kinds keep longer in perfection by excluding the light. Upon the same principle, perishable articles will remain in a better condition and keep longer in the dark; consequently, all vegetation is susceptible of undergoing greater changes in that state without securing injury. Accordingly, plants will remove and transplant better in the dark, or by excluding the light from them a short time, which would give the dark of the moon the preference, (not from any influence she has, but from the light she reflects). The reason given for vegetation being more capable of resisting deleterious influences, and being susceptible of undergoing greater changes, when in the above relations, is, it is in a positive state to the surrounding object, and has a surplus to give out, like a positive conductor to an electrical machine. Dark color is not only the best to accumulate, but the best to retain electricity, which can be illustrated in the dark, in a cool, dry atmosphere, upon a black cat, compared with a white one, by rubbing them on the back quickly with the hand; the black one will give out sparks more abundantly, which can be seen and heard; accordingly, it must be positive compared with the other. If our

theory is true, dark soil contains more of the essential principles of life, and will support vegetable growth the best, it being in a positive state, and has a surplus to spare.

We shall, in the next place, endeavor to give some of the signs of a deficient constitution. When we see plants with a feeble, delicate growth, immature wood, thin and very light-colored foliage and bark, fruit nearly colorless, (this being their natural condition, we then see defective constitutions, and deficient organizations, and examples of hereditary disease, which are incapable of withstanding the various changes of climate, and the numerous external influences operating upon them.

Now as high color is a representation of hardness, health, and vigor, so very light color is characteristic of tenderness, debility, and disease; consequently, the lighter the color of the leaves, flowers, bark, and fruit, all other things being the same, the less vitality they have, and the more feeble their growth, and the more subject they are to the various vicissitudes of climate.

White is so delicate a color, that Nature has concealed it almost from view, and protected it by a darker covering, as the bones, teeth, wood, and fruit. The beautiful pearl, the bright, glistening diamond, the rich treasures of platinum, silver, and gold, are all obscured from view by a darker color. Even the twinkling stars and the bright shining sun have their white rays partially shaded by red rays. The silvery moon, that gives her light by reflection, has her dark side; likewise the earth has its day and night; it can not endure the bright rays of the sun too long. The earth is wrapped in her gray mantle, and all nature at times is shrouded in somber hue, an emblem of stability and durability, as it were, to bid defiance to the surrounding elements. How delicate, feeble, and sensitive must the color be that nature has so universally protected and partially concealed from our view.

If our theory is true, then we have as

marked a state of deficiency in the vegetable kingdom as in the animal. It is for us to make the improvement in the one case as well as in the other. Who has not observed the law of progress in the animal race in the symmetry of form, harmony of proportion, beauty of locomotion, and fineness of quality? So, in the vegetable kingdom, we have a similar law of progress. We have made improvement in the growth and color of the flowers, in the quality of the fruit, but in many cases to the injury of the constitution. As in the animal race, we have overlooked one of the primary laws of progress, namely, color; consequently we have not made the improvement we should have done. Now as color is as essential to the constitution as sturdiness of growth, symmetry of form, or fineness of quality, we should use the same judgment and discrimination in the color as in the other qualities. It is reasonable to suppose that the constitution is as susceptible of improvement as the products of it are, if long enough continued in a proper manner. If so, it is the duty of the vegetable physiologist to point out the way and the laws to be observed in perfecting the constitution and its products. It is a physiological fact, that a hereditary deficiency in an individual constitution can not be very easily and completely remedied; yet by hybridization with hardy healthy sorts and their seedlings, continued through several generations, and adhering strictly to the primary laws of vitality and color, we not only improve the products, but the constitution also.

If the above deductions are true, we need never expect to make permanent improvements in the constitution of plants by hybridizing with light-colored flowers or fruit, neither from their seedlings. It must be by selecting the darkest colored bark, foliage, flower, and fruit, and hybridizing with similar sorts and their seedlings, where we must look for a rapid advancement in the vegetable kingdom.

We have now given you the two conditions of plants, the positive and nega-

tive. The dark represents the former, and the light color the latter. The positive leads to health, vigor, and progress; the negative to debility, disease, and degeneracy; yet it may lead to exquisite beauty,

the finest quality, but in the end to disappointment; while the positive has all the essential principles of life, health vigor, durability, beauty, and quality, with the certainty of ultimate success.

RESIDENCE OF TRISTRAM ALLEN, ESQ., RAVENSWOOD, N. Y.

THE accompanying view of Mr. Allen's house is a good example of the method of adding to a dwelling which has ceased to be of sufficient capacity for the require-



Fig. 1.—Perspective.

ments of the family. By reference to the basement or cellar plan, the outline of the old house and the foundation of the new will be distinctly seen. The addition transforms the cottage to a villa, and in a manner which preserves the proportions as

harmoniously as if the whole had been erected at one time and from one plan, thus illustrating a prominent advantage in this style of architecture, which admits more freely than any other successive additions, which, when properly designed,

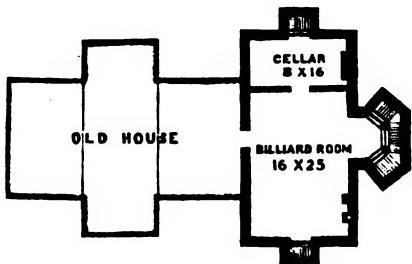


Fig. 2.—Basement.

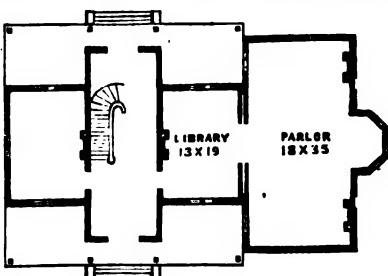


Fig. 3.—1st Floor.

add to the variety of outline, and its beauty of light and shade. The different floor plans show the arrangements of rooms and

their connection with the original building, which, it will be seen, are convenient and compact.

Ravenswood is one of the most elegant of the suburbs of New York, being near at hand, and having frequent and rapid communication with the city. Situated on

the Long Island shore, opposite the centre of Manhattan Island, overlooking the great metropolis and its outlying cities, of easy access to the Central Park by the Hell

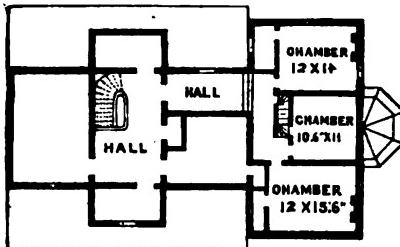


Fig. 4.—2d Floor.

Gate Ferry, amid all the refinement of fine gardens, polished landscape scenery, and architectural taste, it presents at once all

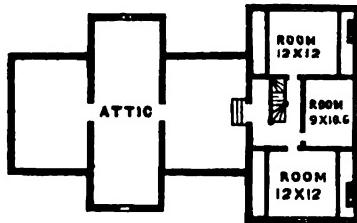


Fig. 5.—Attic.

the enjoyments that a combination of city and country life can afford.

COMPARATIVE HARDINESS OF THE DELAWARE AND CONCORD GRAPE VINES.

BY REV. LUTHER DODD, TOLEDO, IOWA.

In the June number of the *Horticulturist* is an article over the signature of Dr. H. Schroder, of Bloomington, Illinois. There is a single item in that article which I wish to notice. After commanding the Concord very highly for its hardiness, he says: "The Delaware is very tender." I wish simply to state a few facts which came immediately under my own observation, and your readers may each make his own inference. My residence is in Central Iowa, over a degree north of Bloomington, Illinois; my garden on high prairie, facing north, and without scarcely any protection. I have a Delaware vine, a large layer, bought of Dr. Grant, and planted in its present locality, two years ago last spring. Last season it bore ten fine bunches of grapes. The middle of November, I pruned and covered it lightly with soil. It was in a locality so entirely exposed to the northwest winds that I soon observed that most of the covering was blown off; but I thought that I would

let it be to try its hardiness. It had pleased me well in growing and bearing fruit; now for a trial of its hardiness. The place was so completely exposed to the wind that very little snow lodged on it during the winter. There it lay, pinned down with forked sticks to the ground, exposed to the peltings of the wind all winter. As I saw it, from time to time, I feared that the test would be too severe; but, highly as I valued it, I let it alone until time to take it up in April. I had let two shoots grow, of which I have made arms this season. These arms have each five shoots now (7th of June) which have made from fifteen to twenty inches growth each, and each show from one to three, generally three, bunches of grapes. The vine shows every sign of perfect health.

Now for the Concord. I have a Concord vine planted four years last spring—a good plant—which has made good growth, and borne fruit for the last three seasons. Its locality is further down the slope, and so

near the fence that it was much better protected than the Delaware by snow. It was pruned and laid down at the same time with the Delaware, and covered in the same manner. Its protection was in every way equal, and in many respects better than that of the Delaware. The arms had been made two years ago, and the shoots or cordons were cut back last fall to three buds. When taken up this spring, the primary buds were nearly all destroyed. It was late before it showed any signs of life, and the few shoots which have at length grown have made but very feeble progress; the vine is about as good as dead. Of the eight Concords which I planted a year ago last spring, not one lived over winter. They were all covered with earth; but all killed, root and branch. Delawares, planted at the same time, and treated in the same way, are mostly alive and growing finely. Some very feeble plants, which made but little growth last summer, died. Isabella, Diana, Allen's and Rogers' Hybrids, Tokalon, York Madeira, Rebecca, Ontario, Cuyahoga, and Golden Clinton, all treated just as the Delaware, were killed. Of the forty varieties I have none stood the test of last winter, except the Clinton, equal to the

Delaware. Next to the Delaware, the Creveling; then the Anna; next Concord, or the Hartford Prolific—it is about a tie. Two Concords, set out a year ago last spring, were found dead this spring, and a Creveling between them alive to the last bud, and now growing finely. They had all been set out at the same time, and treated alike, and made about equal growth last season. Now, Mr. Editor, all I desire is fair play. I have no interest in crying down either the Concord or the Delaware. Of the hardiness and general value of the Concord I have no doubt. But my experience is that the Delaware is not relatively tender, and consequently of little worth. They are both valuable in their place. In ordinary seasons either of them are hardy enough, with a little protection, to stand the winters of Illinois or Iowa. I hope that we shall have but few such trying winters as the last was. I have no disposition to engage in a controversy with Dr. Schroder. He gives his views honestly; I tell my experience faithfully. Facts must decide questions of this kind, and facts I have stated. Much depends on the way a vine is treated. Neither unripe wood or unripe roots will stand the rigors of an Iowa winter.

A NEW MODE OF TRAINING AND PROTECTING VINES.

TRANSLATED FROM DU BREUIL BY C. MARIE.

Mr. Marie sends us the following translation, describing a new mode of training and protecting the vine. It is not calculated for the vineyard, but has some merit when protection is desirable from whatever cause. Let the reader compare this with Mr. Weed's, in our last, and say which is the simplest and best.

"The vines are to be planted *en cordon vertical*, the height ranging from 0.16 inches to 40 inches, according to the vigor of the vines. (Figs. 1, 2, and 3.) This form is perfectly well suited to the preservation or renewal of one or more long canes, as

is shown by the figures. These canes, which can be renewed every year by a shoot reserved at their base, are more or less numerous, and are pruned shorter or longer, according to the vigor of the vines. These vines are supported in the following manner: for vines of little vigor or trained low, (Fig. 1,) place on each row of vines two wires arranged as in a trellis. The first wire, A, is placed at 12 inches from the ground; the second, B, at 24 inches. For stronger growers, (Fig. 2,) where the canes are trained 28 inches, three wires are to be used; the first, A, at 12 inches

from the ground; the second, B, at 26 inches; and the third, C, at 40 inches. every twenty feet, on each of the double

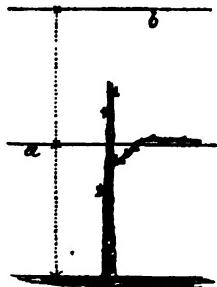


Fig. 1.

For the very strongest growers, (Fig. 3,) four wires are to be used, the first, A, at 12 inches from the ground: the second, B, at 14 inches from the first wire; the third,

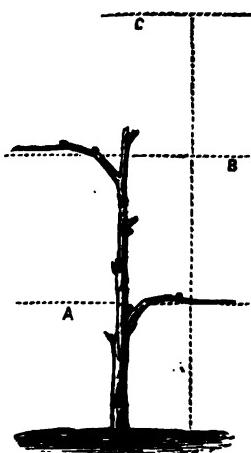


Fig. 2.

C, 14 inches above the second; and the 4th, D, at 56 inches from the ground. Each vine, during its formation, will be fastened to a stake, which is to be fastened to the wires, and no higher than the top wire. These stakes are only to be used until the vines have attained their full height. After this, the vines are to be fastened to the wires. One of the upper wires of the two double lines, the one placed on the north or west, (A, Fig. 4,) must be 5 inches lower than the wire B of the opposite side.

"In order to stiffen these trellises, so that

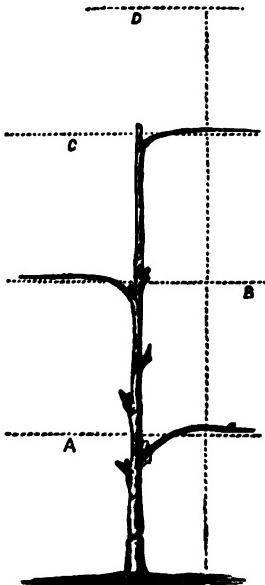


Fig. 3.

lines or rows, a strong post, (C,) soaked in sulphate of copper, and reaching to the height of the vines A and B, the top one of each row, as seen in the figure. Stakes D, to stiffen and steady the post C and C, are fastened together with wire at the point where they cross each other, (E.)

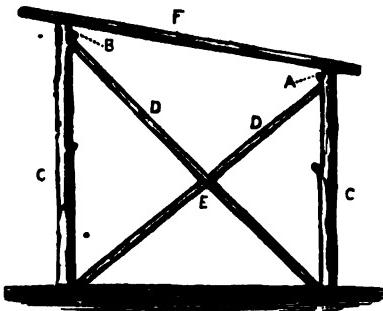


Fig. 4.

"This plan facilitates the use of shelter, to prevent the vines from late frosts and prolonged dampness in the summer. All that is necessary to be done is to place a straw mat, F, (Fig. 4,) 32 inches wide, on top of the double line of wires. The straw

mat will naturally be inclined towards the north or west, in consequence of the difference of level of the wires, the result of which will be, that the rays of the sun

will have free access from the south or east; that it will afford better protection against the cold winds, and offer less resistance to them."

MONUMENTS.—NO. III.

BY A PARISH MINISTER.

It is natural and becoming that we should follow the friends we have lost with deep and affectionate regrets, that we should treasure up in our memories all the proofs of their love and kindness towards us, and that in the fulness of our overflowing hearts we should endeavor to demonstrate, by all acts of reverential tenderness still in our power, how much we mourn their loss, how much we desire to preserve their beloved remains from being disturbed, and to keep up the remembrance of them in the minds of those who survive, and who were once their neighbors and familiar friends.

It is for these purposes that we mark the places where we have committed their bodies to the ground, in sure and certain hope of the resurrection to eternal life, with memorial stones. This is not only natural, but becoming and right in itself, supposing that no feelings of vanity or ostentation interfere to vitiate the amiable and sacred sentiments of reverence and affectionate remembrance. And, although these memorials can in no way benefit the departed, they may be a christian act, and one that may profit the living.

It is a comforting christian doctrine that there is communion still between those who are living in the faith and fear of God on earth, and those who are resting from their labors in the repose of Paradise.

Of the nature of this communion and fellowship we know, indeed, but little; but one of its practical results is to produce in us a deep feeling of reverence towards the departed—not only reverence for their sacred dust and for the graves which hold their crumbling bodies in trust, but a revere-

rence which would make us careful and even sensitive of speaking of them in any manner which would imply exaggeration or boasting.

It is the natural impulse of strong affection to remember the good qualities of the dead, and to forget the imperfections and infirmities of which we were more or less conscious while they were living. If we speak of them at all, it is as if they had been almost faultless. We shrink from the contemplation of their failings, and our memory loves to dwell on the good qualities which made them dear to us. But, as respects our deepest feelings for those who are gone before, we are altogether silent. Our thoughts of them are too sacred for us to allow a stranger to intermeddle with them. We would hide them from the gaze of the thoughtless and indifferent, in some secret corner of our hearts, even as the green earth hides their fading forms.

Such feelings of delicate and pious reverence ought to incline us to be equally careful with regard to the inscriptions we place upon their tombstones. If we are so sensitive in the one case, we should not be less so in the other; we should allow no inscriptions or epitaphs which would be likely to provoke unfeeling comments from strangers, or which could in any way expose their lives and characters to the criticisms of the rude and unsympathizing world.

Monumental inscriptions should, therefore be free from all expression of exaggerated personal feeling or affection, and from all praise of the deceased, except, of course, in those instances of eminent public worth where moderate praise could not

be withheld, and even in such cases, the simpler and briefer the inscription, the better. In ancient times the tombs of the departed were frequently left without even the names of their occupants being inscribed thereon, their surviving friends being content that these resting-places should be simply marked with some Christian symbol, like the cross, to protect them from disturbance. And when inscriptions were introduced, they were made as short and worded as humbly as possible.

It is a good thing that we now have, in the neighborhood of nearly all our large cities and considerable towns, permanent and decent cemeteries which are never likely to be disturbed and desecrated by "the spirit of improvement," as it is oddly enough called. This new interest and attention to the places of burial has created new interest and attention to the subject of monuments and inscriptions. As respects the latter, there are too many instances of bad taste. Without going into details, we cannot avoid alluding to a species of sentimentalism which is very common and which ought to be avoided. We mean such inscriptions as these : "OUR DEAR LITTLE WILLIE," "OUR DARLING FANNIE," etc., etc.

These children may have been, and doubtless were, inexpressibly dear, and their departure felt as a great affliction. But the careless stranger does not sympathise with these feelings. It does not

concern him that this affection and grief should be paraded, perhaps in gilded letters, and with an affected orthography of familiar names.

A head-stone has recently been ordered from one of the drawings presented in our article in the May number of the *Horticulturist*. We copy the inscription, with change of names, as illustrative of our idea of what is suitable in such cases.

JOHN THOMAS CHRISTIAN,

THIRD SON OF

EDWARD AND MARY HOPE.

BORN, JULY 1, A. D. 1860.

DIED, JULY 1, A. D. 1862.

"HE GIVETH HIS BELOVED SLEEP."

This is to be cut in the plain Roman letter, without any flourish or ornamentation. For the text from Scripture the old English letter, to which we are partial, might be used. But as a general rule, inscriptions should be so plain that they may be easily read by children and persons partially instructed.

Texts of Scripture, expressive of Christian humility and hope are always appropriate. But poetry should be avoided as offensive to good taste. If we were not writing upon a serious subject, we might present many examples of poetic inscriptions which are painfully ridiculous. But we forbear, leaving the suggestions we have offered, at this point, to be taken up again, perhaps, in a future number.

A NEW GRAPE DISTRICT.—Standing on the lake shore at Cleveland and looking westward, at the distance of sixteen miles we see a high point of land putting out into the lake, known as Avon Point. This point is not very pointed in fact, though it looks so to the spectator on the shore at Cleveland, but is a wide projection of land, ten miles wide in the waist, with a rather abrupt corner on the northeast which faces this city, and contains an area of a thousand acres.

This land on Avon Point, being high and

of a firm clay composition, has been judged just the thing for grapes, and as the Point is encircled on three sides by the lake it is thought to be as well protected as the Islands. In view of these facts, several gentlemen of Elyria and vicinity have commenced the planting of grapes on Avon Point, and have already put in some fifty acres of vines. This auspicious beginning has had the effect to run up the price of land almost to the fancy figures which it bears in the grape regions of Sandusky and the Islands.—*Ohio Farmer.*

COLMAR DES INVALIDES PEAR.

Fruit, very large, pyriform. *Skin*, russetty yellow, sprinkled with russet dots. *Calyx*, small, open, segments stiff, in a small, shallow basin. *Stalk*, stout, long, set

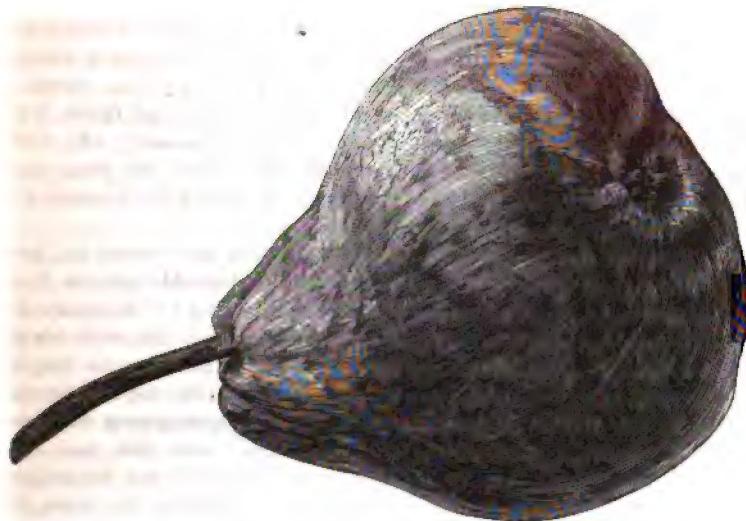


Fig. 1.—*Colmar Des Invalides*.

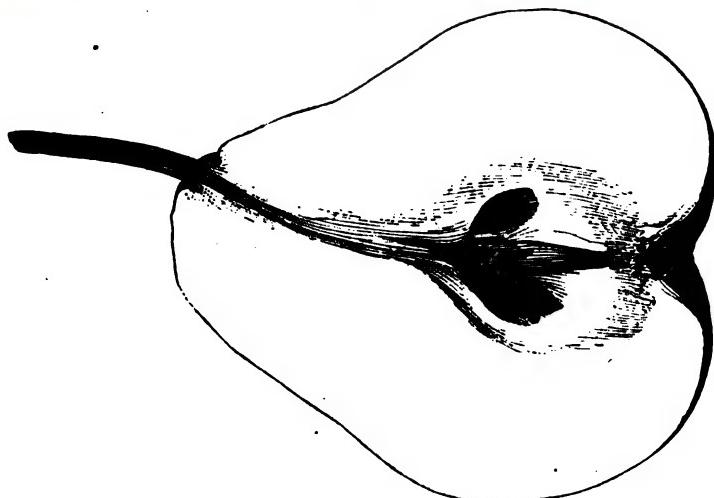


Fig. 2.—Section.

at an angle in a one-sided depression, with a fleshy protuberance. *Flesh*, white, coarse, somewhat gritty at core, moderately juicy, sweet, half melting, with a good flavor.

Our specimens ripened during the first week in May. It may be classed as a good late winter pear.

MOUNT LEBANON AND ITS PEAR ORCHARD.

BY WILLIAM BACON, RICHMOND, MASS.

To those familiar with the location of the village of the "United Society" at New Lebanon, or, as the post-office distinguishes it, Mount Lebanon, any description will be needless; but, as our remarks will probably fall under the notice of many who have never visited their neat and pleasant village, and as we may at future times allude to their successful horticulture, it may be proper to enter more minutely into the details of their locality than would be necessary if we gave their operations only a passing notice.

Geographically, this village is in lat. 42 deg. 30 min. north, and in long. 73 deg. 25 min. west. It is located on the western slope of the Taconic mountain, which forms an angle in its course at or near the south family, towards the east, and then stretches off in a direction north by east, towards Vermont. The mountain here rises some seven or eight hundred feet above "Lebanon Flat," and about two hundred feet up its side, and at an elevation of near one thousand feet above tide water, the village and gardens are located. Here, high in the air, and with a full exposure to northerly and westerly winds, this persevering and industrious people have attained a success in horticulture, which ought to be imitated by all, and may well raise the blush of shame on those who have failed of success in more favored localities.

It may reasonably be supposed, that with so extensive and abrupt a slope as is shown by the western face of this mountain, the heavy rains would wash the muck off the surface; but their judicious management appears to have, to a great extent, remedied this evil.

In October last, we were invited to visit a pear orchard, located east of the village, on the side hill, having a full exposure to the northwest. The trees were mainly

standards, and apparently about a dozen years old, and at the time of this visit they exhibited such a burden of fruit as we had never before seen on trees of similar age and size. There were no barren trees among them, and not an inferior or sickly tree in the whole orchard; and, what was more and far better, the pears were all large and exceeding fair for their several varieties.

The question now comes up, how did they attain so desirable success in so unpromising a locality? The answer lies as follows: It is a principle with this people to be thorough in whatever they undertake. Thorough draining and deep tillage are, with them, synonymous with successful cultivation; and this land was, of course, well drained and thoroughly cultivated. In preparing the holes for the reception of the trees, ample space was allowed to give the roots years of extension before they reached the earth that had not been removed; and then, good and thrifty trees were set, and the finely pulverized soil, intermixed with a liberal proportion of compost, was placed around them.

We are not informed of the general after-culture of these trees, but their thriftiness, both in growth and bearing, showed conclusively that ample justice had been done them. Last fall the ground was in grass, but the trees, for some distance from the trunk, were heavily littered with refuse coarse grass. This kept the soil loose over and around them, and enabled them to retain a more equal degree of moisture than would otherwise have been the case. It also tends to equalize the temperature of the soil, shielding it from the scorching heats of summer and the severe cold of winter—two considerations of great importance in successful fruit-growing.

Another feature in this orchard, probably connected with thrift and fertility, was, that the trunk of each tree was protected by a straw covering, extending from the ground to the lowest branches. Here was labor expended beyond that usually given to pear, or, indeed, any other fruit trees; for the advantages of which, it is claimed that it is injurious to the trunk of any fruit tree to be exposed to the scorching rays of the summer's sun, or the equally destructive influence of the severe frosts of winter. Perhaps we may well say it saves the tree from the frequent freezings and thawings to which fruit trees are so subject. It also protects the trunk from the depredations of insects, such as the bark louse, that has been so formidable an enemy to many young fruit trees, especially those of the careless cultivator, for a few years past.

We found in this orchard, one of the best specimens of successful pear culture that has ever fallen under our observation, and we have alluded to it to show the faint-hearted and careless pear grower how high a success may be attained where natural causes are somewhat deficient, by adopting a thorough and systematic course of cultivation. Some will no doubt say, that they cannot bestow the amount of labor on their trees, which appears to have been expended on those under consideration. But to the Shakers, it has been "the labor that profiteth," and this is the ultimate object and end of all labors, in some way or another.

In pear-growing, one of the great hindrances lies in the lack of labor and watch-

fulness. To do right things, in the right way, and at the right time, is important in any business, and becomes more important in proportion to the obstacles to be surmounted and the end to be attained.

Good pears are healthful, and are a favorite fruit with all. Yet but a small proportion of the population are furnished with even a meagre supply. There is no reasonable cause why they are not. There may be, and sometimes are, failures in the growth of trees, and in their productivity, which the cultivator cannot prevent; unpropitious seasons may bring blight, or new and unheard-of insects may make progress in the work of destruction, "while men sleep," and before their existence is known; but nine-tenths of the want of success lies in the carelessness of the cultivator.

It is a pleasure to look upon a tree we have planted, and see it expand in proportions of symmetrical beauty. It invigorates the whole man to see such a tree awake from the lethargy of winter and deck itself with the flowery beauty of spring, or put on the more sober verdure of summer. It is a luxury, a health-giving luxury, to sit under its shade in autumn, and feast the taste upon its ripe, falling fruit, blushing in gratitude for labor bestowed upon the parent tree to give it health and strength to hold it until maturity had done its work of softening it to delicious pulp and painting it for a festal destiny. Happy are they, and sure of abundant success, who labor faithfully and unremittingly to secure such pleasure.

FORCING STRAWBERRIES.

BY RICHMOND.

ALTHOUGH the culture of the strawberry in the open air has been brought to great perfection in this country, its culture under glass has not generally received the attention it merits. This results, no doubt,

from the ill success attending the forcing of the finer varieties, without reference to their sexual character, which, strange to say, is often overlooked by those who, in the out-door culture of the Strawberry, are

great sticklers for the proper quantity of staminates for their pistillates.

This modern discovery, which has been so successful, and is now so well understood, can be adapted to forcing as well as to out-door culture, and it is to be credited to the discernment of American horticulturists. The person to whom the honor of its discovery is due is unknown to me, but it is conceded to be one of the greatest improvements in the culture of this fruit. It is remarkable that it escaped the observation of the most eminent fruit growers of Europe, or, if known by them, never made public, or applied to any extent. Indeed, many good gardeners of whom I inquired concerning the sexual distinction in the different varieties, informed me that in Europe the strawberry was always considered Hermaphrodite, which agreed with the opinions of the gardeners of the locality in which I served my apprenticeship. This does not seem to be very creditable to the gardeners of the old world; but they never had any necessity to trouble themselves about the matter, as their strawberries always set well, and any thing to the contrary never entered their thoughts. Their climate is better adapted to the production of large fruit than ours, but at the expense of flavor. I also think that the humidity of their atmosphere is more conducive to the setting of the fruit.

But to return to the forcing of strawberries. I can safely say that very early forcing will be found neither profitable nor pleasing, even with the best varieties for that purpose. The first of February will be early enough; and they should have been potted in August or September. One-year old plants are best. At the approach of severe weather they should be plunged in coal ashes in frames or pits with sashes, and protected from severe frosts, giving air on mild days, and if very dry, a little water on the root; and so remain till wanted for forcing, at which time all decayed leaves should be dressed off and the pots surfaced.

After being placed in the strawberry house, give them a good syringing, and admit as much air as will keep the house at 60 degrees during the day. The night temperature should not be higher than 45 degrees. Do not give much water at the root until they begin to grow freely, which, with frequent syringing, they will do in a week or ten days. After this time, guano water ought to be given twice a week, till the fruit begins to color; then withhold it; also discontinue syringing. At no time during the forcing of strawberries should the night temperature go above 55 degrees, or during daylight over 70 degrees, which will even then be too high, except the plants are very near the glass. As the fruit is coloring, place bits of sticks across the pots to support the fruit, and to prevent it pressing on the rim of the pots; the fruit being so soft, it is easily spoiled, its own weight often spoiling it when lying against a hard substance. From the time coloring commences, all opportunities of airing the house should be attended to, and the pots should be turned often. If they are plunged in spent tan or sand, less water may be necessary than if exposed to the air. I prefer the latter way, as the house will be drier at the ripening of the fruit, and as much water may now be given as will just keep the leaves from flagging, and no more.

If very early strawberries are wanted, some sure setting kinds ought to be used, such as Chorlton's Prolific or Triomphe de Gand. The last variety is not so reliable as the first for early forcing, but it is fine as a succession, and will stand more heat, and requires a close, humid atmosphere to set well in. Syringe freely over the plants when in bloom; it will not injure them, but will help to set their fruit well. The philosophy of this I do not pretend to account for; but this much I can testify, that with other fruits, such as Peachee and Canon Hall and Muscat of Alexandria grapes, the most certain way to set them is to syringe them while blooming, and I have had them as well set as Hamburgs by this

means. Strawberry plants that have been forced once are generally considered worthless for fruiting in the house the following season, and are usually thrown away, except they are a scarce kind, or wanted to get stock from. I have often thought it would be worth while to force them again, as I could see no reason why they could not be permanently grown in pots, as well as peaches, vines, etc. I was the more confirmed in this opinion when I happened to examine the ball of earth surrounding the roots of some forced strawberries, and found that the roots had not penetrated through the ball to the inside of the pots, although the plants were strong and had borne good fruit; so I determined to try them again without repotting. Then, having given them a top-dressing, composed of leaf mould, loam, and wood ashes, they were watered and set in a rather shady situation till the approach of severe weather, when they were

plunged in coal ashes and covered with frames. Having sashes to protect them, here they remained until wanted for forcing. At the proper time they were taken to the forcing-house, and produced plenty of fine fruit.

Plants layered into pots, which is generally practiced, will not make as good roots as those transplanted once or twice before being potted for forcing; and I have an idea, that if they were first planted in rather small pots, and shifted as often as their roots would indicate the necessity of, it would succeed. I shall try the experiment at the first opportunity. Some may object to the trouble of all this, but I think good fruit will repay any trouble. As a proof of what may be done with the strawberry, I have dug up plants in the month of January, and planted them in pots and in moss baskets, and had good fruit in March.

THE TEN COMMANDMENTS OF POMOLOGY.

BY HORTICOLA.

As asparagus and green peas are found, in the spring, in every good vegetable garden, so new ideas are apt to spring up in different heads so soon as their season arrives. The Dutch claim Koster as the inventor of the art of printing, while the Germans fight for their Guttenberg. Whether Newton or Leibnitz discovered the Differential Calculus can not be settled, except by the assumption that the great discovery was made by the two great men at the same time, independently of each other. Is it, therefore, to be wondered at, that the accomplished editor of the *Horticulturist* should have penned his *Thirty-nine Articles of Faith in Pomology* nearly at the same time when a clergyman in Bohemia published the *Ten Commandments of Pomology?* This co-incidence being interesting to both of us, Mr. Mead and myself, I yielded willingly to trans-

late them into the English language for the *HORTICULTURIST*.

In attempting this, I feel the impossibility to do justice to the original, the language of which is so powerful and characteristic, so brief and full of meaning, that no translation could convey an adequate idea of it. To each commandment is added a long and practical explanation in a familiar style, like Luther's in his explanation of the commandments in his Catechism. The whole forms a small octavo volume of 151 pages of close print. The author is CHARLES FISCHER, minister of the Gospel at Kaaden, in Bohemia, a man indefatigable in his endeavors to promote the culture of fruit-trees by teaching and example. He is one of the correspondents of the *Monthly for Pomology*, by OUEN-DIECK and LUCAS. The little book is teeming with practical instruction and hints,

so that the Prussian government bought a large number of copies for distribution in the common schools of the kingdom. Not all assertions contained in it will, it is true, be received as indisputable truths; for instance, that a pear raised from any cultivated sort will always revert to its primitive type, the wild pear of the European woods, or that the culture of fruit-trees in America is rapidly declining; it contains, however, treasures of practical wisdom, and can not fail to benefit those interested in orchard culture.

First Commandment.—Thou shalt base thy faith only and exclusively on a vigorous seedling carefully raised; nor shalt thou suffer, beside it, either in thy orchard or nursery, any sucker; much less shalt thou make use of a sucker for propagation.

Second Commandment.—Thou shalt not call any kind of fruit-tree by a wrong name.

Third Commandment.—Thou shalt keep a watchful eye on the fruit-trees during the time of their holidays, (Winter.)

Fourth Commandment.—Thou shalt honor the parents of our fruit-trees (the wild sorts) on account of their seeds, in order to raise from them long-lived, vigorous

trees, for the benefit of the culture of fruit-trees.

Fifth Commandment.—Thou shalt protect thy fruit-trees from injuries.

Sixth Commandment.—Thou shalt not propagate thy fruit-trees in an unnatural way. (Suckers for stocks are against nature.)

Seventh Commandment.—Thou shalt not impoverish the ground where thy fruit-trees grow, by constantly taking from them without ever giving (manure.)

(The original has : *Du sollst mit der Obstbaumzucht keinen Raubbau treiben.*)

Eighth Commandment.—Thou shalt not bear false witness against the culture of fruit-trees.

Ninth Commandment.—Thou shalt not be immoderate nor uncautious in thy desire for new kinds and varieties of fruit-trees.

Tenth Commandment.—Thou shalt not always covet nurseries in the distance to procure thy fruit-trees from.

For the benefit of such as are able and wish to read the original, we subjoin the title in full : *Die Zehn Gebote den Obstbaumzucht.* Von Karl Fischer. Berlin, 1861. (Ernst Schotte & Co.)

THE PUMP FOR THE CISTERNS AND THE WELL.

BY L. FRITSCH, EVANSVILLE, INDIANA.

It is well known by every householder and farmer who uses a cistern or a well, that no pump can be used for them except a chain pump. The reason is that all the suction pumps draw the water with so great a force, and stir up so much of the mud or sand at the bottom of the well, that it either supplies a dirty water or excavates the foundation of the well. What is necessary to do if good force pumps may be used for well or cistern? I think it might be done if the pump draws the water through a hose of which the end

passes through a small plank or cork that swims upon the water, and ascends and descends with the quantity of water in the well. The length of the hose must be that of the depth of the cistern or well. With such an arrangement, the water is drawn from the upper parts of the water, near its surface, and not its bottom; in consequence the water must always be clear, and the bad qualities of our former pump arrangements are avoided. What do our pump makers say to this Mr. West, &c., &c.?

THE MEADOW PARK AT GENESEO,

BY THE LATE A. J. DOWNING.

THE recent death of Gen. James S. Wadsworth, in the battle of the Wilderness, will add a new interest to this description:

ALL our country readers have heard of the Genesee valley, its beauty and its fertility.

The great agricultural estate of the Wadsworth family is the pride and centre of this precious valley. That magnificent tract, of thousands of acres of the finest land, which surpasses in extent and value many principalities of the old world; those broad meadows, where herds of the finest cattle crop the richest herbage, or rest under the deep shade of giant trees; that rich spectacle of immense fields of grain, or luxuriant, broad-foliaged maize, waving in the wind and ripening in the sunshine—all this is felt, by every visitor, to realise even an ideal picture of agricultural life.

There is something stirring in the history of this immense landed estate. Over the whole of its broad surface, as in the pages of a great folio, are written the genius, the practical sagacity and the taste of the family which has formed it. It is, too, a record truly American, of the subjugation of the forest, of the courage and advance of pioneer life, and of the wonderful progress and present prosperity of that still youthful region.

A little more than fifty years ago the whole of western New York was a wilderness. The Little Falls of the Mohawk was the western limit of cultivated lands. A couple of white families only had established themselves where the populous cities of Utica and Geneva now stand.

In 1790 the two brothers Wadsworth, educated and sagacious men, foreseeing the future value of this western wilderness, sold their patrimonial estate in New England, and, with a band of hardy axemen, penetrated the wilds, and settled where Genesee now stands.

JULY, 1864.

Of the energy, intelligence and practical skill, with which their operations were there conducted, this vast estate alone is a grand monument. James Wadsworth, the father of the present family, who survived his brother, and lived to a ripe old age, had the satisfaction of seeing, before his death, the wisest and the most extravagant hopes of his youth realized in the greatness and prosperity of western New York.

His own estate, covering many square miles, is an example, rare in this country, of the result of the principle of re-invest—upon the land the profits of extensive agricultural industry. While other men of wealth sought investments in cities and monied institutions, Mr. Wadsworth added to his great landed estate, and improved the value of that which he already possessed.

The great farmer of Genesee, at the present moment, is his son, James S. Wadsworth, Esq. Inheriting all his father's strong love of rural life and agricultural pursuits, he has added to them even more science, system, and completeness in his husbandry, which enables him to combine with the pleasure of extensive cultivation, an annual profit from his land, that would satisfy a reasonable capitalist who moves among stocks and bullion.

The farmer who, on a single occasion, swelled the contribution of his countrymen to the fund for the relief of a nation perishing by famine, by the gift of a thousand bushels of corn, from his own well-filled granary, is as well known and warmly remembered on the other side of the Atlantic for his philanthropy, as he is at home for his earnest zeal in all enlarged plans for the improvement of the calling or the condition of the agriculturist.

We must, however, not go into the details of farming, even on the large and interesting scale which this first of occu-

pations is pursued in that fertile country. We took up our pen to write a few words of admiration of the grand sylvan features of Genesee. These the farmers are but too often apt to overlook.

The elder Wadsworth was, undoubtedly, a man of great natural taste. His visit to England, in 1796, may have developed his love for fine trees and parks; but no person, not naturally full of admiration for landscape beauty, would have preserved, amid the general wantonness of all early settlers, so much woodland beauty, in a country then a wilderness, unless there were a profound sense of the majesty and beauty of nature in his own heart.

How shall we give those who have not been at Genesee an idea of the grandeur and beauty of the great meadow park of the Wadsworth estate? Let them imagine a broad valley, running north and south. It is bounded on the east and west by ground gently rising to the level of the country. The valley itself is not broken or undulating, but nearly level, like a great *swannah*. Through the midst of it meanders the gentle, placid, Genesee river.

On the eastern side of this valley, and overlooking it, stands the village of Genesee. It is a quiet, New England-like village, of a single long street, bordered with trees. At the south end of this avenue you enter the grounds and mansion of the late Mr. Wadsworth. The exterior of the latter is simple and unostentatious; but its interior breathes an air of the most refined and graceful taste. At the northern end of the village is the entrance gate of the mansion of James S. Wadsworth, Esq., an admirable specimen of a complete country house.

Both these mansions, placed nearly on the same level on the eastern slope, command a wide prospect of this valley.

And what a prospect! The whole of that part of the valley embraced by the eye—say a thousand acres—is a park, full of the finest oaks, and such oaks as you may have dreamed of (if you love trees), or, perhaps, have seen in pictures by

Claude Lorraine, or our own Durand; but not in the least like those which you meet every day in your woodland walks through the country at large. Or rather, there are thousands of such as you may have seen half a dozen examples of in your own county.

And they are not only grand, majestic, magnificent, noble trees—these oaks—but they are grouped and arranged just as you, a lover of the beautiful, and we, a landscape-gardener, would have had them arranged if we had the taste of Sir Humphrey Repton and the wand of an enchanter, and had attempted to make a bit of country after our own heart.

No underwood, no bushes, no thickets; nothing but single specimens or groups of giant old oaks (mingled with, here and there, an elm), with level glades of broad meadow beneath them! An Englishman will hardly be convinced that it is not a park, planted by the skilful hand of man hundreds of years ago.

This great meadow park is filled with herds of the finest cattle—the pride of the home farm. The guest at Genesee takes his seat in the carriage, or forms one of a party on horseback, for the afternoon drive over the "flats," as the Genesee valley is called.

Thus in readiness, you follow no roads—none are needed indeed; for the surface of the great meadow park, for the most part, is so smooth and level that you drive here and there, to any point of interest, as you please. To us, first of all, the trees themselves—many beautiful in their rich masses of foliage; many grand in their wonderful breadth of head and branches; and some majestic and venerable in their great size and hoary old age. Near the bank of the river still stands the great oak "Big Tree,"* under which the first treaty was signed between the Indians and the first settlers of Genesee. Its enormous

* "Big Tree" was the name of the Indian chief, of the tribe which originally lived in this part of the Genesee country. The old chieftain has long since gone to the eternal "hunting ground" of his fathers; but the tree, which was venerable in his earliest youth, still survives him, and preserves his memory.

trunk measures sixty-five feet in circumference; it still wears a healthy crown of leaves, and is preserved with all the veneration which an object that awakens the sentiment of antiquity inspires in a new country. Not far from it stands the stump of a contemporary, destroyed a few seasons before by the elements. The annual rings of its trunk tell the story of nine hundred years' growth.

You hear a loud shout from one of the party on horseback. Immediately the groups of cattle, quietly grazing in the park, raise their heads and rush from all quarters, like a herd of mad buffaloes, towards your party! Do not be alarmed; for, strange as it may seem to you, they are most peaceably inclined, and are only galloping round you at the well-known call of their master, who has accustomed them to this little exhibition. You are now invited to alight, if you are fond of fine stock, and look at the good points of the cattle. And there is, among the many fine specimens around you, quite enough to drive all thoughts of an afternoon's nap from the head of the most indifferent breeder in the country.

What is the solution, you ask, as you resume your drive again, of the mystery of this peculiar growth of the trees in this great natural park? Has nature, who usually sows bushes and briars in thicket, and underwood amid the forest, taken it into her head to set an example here to planters of parks, and allowed only gigantic trees and broad meadows to extend, seemingly, to the horizon?

The tradition runs thus: This beautiful valley was a favorite hunting ground of the Indians. In order that they might render it as perfect as possible for this purpose, they were in the habit, every year at the proper season, of lighting fires. These fires swept over the whole surface, and destroyed all the lesser forest growth. The trees which survived grew on, larger and larger every year, until at length the whole reached the condition of a great park, as it was transferred to the white man.

There are many beautiful features in the scenery of the broad state of New York; but there is no picture of sylvan or pastoral scenery daguerreotyped in our memory, at once so fair and so grand as the meadow park at Geneseo.

ORCHARD HOUSE, &c., OF MR. ISAAC PULLEN, HIGHTSTOWN, N. J.

We accepted, a few days since, an invitation from Isaac Pullen, Esq., of Hightstown, New Jersey, to visit his orchard house and nursery. Mr. P. has for a number of years past been a large and successful grower of peach trees and choice early fruit. Some three or four years since, for the purpose of testing new varieties, he erected an orchard house one hundred feet long by about sixteen feet wide, somewhat after the plans of Rivers. The trees are grown in pots from nine to fifteen inches in diameter, the pots plunged in the border of the house about two-thirds of their depth. This house was started early in January, and the first peaches (Hale's Early) were ripe about 8th May. Trot's Early, which has hitherto been considered

the best early peach, was nearly four weeks later. Both varieties were fruited under precisely the same conditions, which we think conclusively establishes the earliness of the Hale's Early. As soon as the fruit begins to color the pots are removed to the open air, where the process of ripening and coloring is finished, and fine flavor (of which almost all orchard-house fruit is deficient) is attained. We are of the opinion that no one could wish for better size, appearance, and flavor of fruit. Some of the trees have fruited for the fourth time, and are still vigorous, though confined to such limited quarters. What is a more beautiful object than one of these miniature trees, loaded with two or three dozen fine peaches or nectarines, growing in an

eleven-inch pot, which can be removed from place to place at pleasure? The well-kept nurseries, extensive pear, apple, and cherry orchards, of all the standard and tested varieties of their respective fruits, occupied much of our time.

The Bartlett pear is here the principal one cultivated for market, and by far exceeds all others as to profit. We are inclined to think the reason for this is, that the public know the fruit and purchase it, while the newer and better, though unknown, varieties are passed by. The same is the case with the Isabella among our native grapes, and the Black Hamburg among the foreign varieties; these find a ready sale when the Delawares and Muscats are neglected. Mr. Pullen has kindly furnished us a list of varieties found to succeed well under orchard-house culture, which we give for the benefit of our readers:

PEACHES.	
Hale's Early.	Old Mixon Free.
Troth's Early.	Crawford's Late.
Large Early York.	Early Admirable.
Gross Mignonne (true.)	Late do.
Cooledge's Favorite.	Snow Peach.
Crawford's Early.	Old Mixon Cling.
Yellow Rarereipe.	Late Heath Cling.

NECTARINES.

Pitmaston's Orange.	Hardwicke.
Eiruge.	New White.

Downton.

These will furnish a supply the season through, from the earliest to the latest, except in the case of the peaches a gap remains to be filled between the ripening of the Hale's Early and Troth's Early, which we hope to see occupied ere long by some new variety. We are indebted to Mr. Pullen for a fine basket of fruit, which we will test and may report upon.

THE EFFECTS IN LANDSCAPE OF VARIOUS COMMON TREES.

BY W. LENNOX, MASSACHUSETTS.

I WISH to enter a special plea in favor of that much abused tree, the *Lombardy Poplar*. It is the most formal of deciduous trees, and, therefore, the most effective when properly used, and the worst when abused. When the planting of poplars was the rage many years since, it is no wonder that when the long lines of monotonous trees sprang up all over the country, people got tired of them and cut them all down. But here and there a single fine tree or two was spared. In this part of the country there are half a dozen of these trees in conspicuous situations, that are landmarks in the landscape, towering with their green spires above the rounded forms of other trees, and fixing the eye at the distance of miles, by an irresistible charm. A single poplar, if a thrifty and vigorous tree, is never out of place. It supplies, as no other tree can, the want of perpendicular forms in the level or rounded

lines of our landscapes. The same quality that makes to the eye the hidden charm of castle and crag, viz., *perpendicularity*, is possessed by this tower of foliage. When backed or supported by other trees, and especially if water in front be added, as on the shore of a river, three poplar trees, of different heights, produce a magically picturesque effect; the sketcher cannot go by them without opening his portfolio.

Among our native trees, many that are formal when young, acquire with age and exposure a peculiarly picturesque appearance. The White Pine, when growing in exposed situations, becomes very stocky, and frequently branched and spreading. Its effect is so beautiful in this form, that I have often thought of cutting off the leading shoots of some fine young trees, to cause them to branch. Thrifty pine trees, in open ground, that loose their leading shoots at ten or fifteen feet from the

ground, frequently make the most beautiful spreading trees.

The greatest beauty of the *Hemlock* is in its youth, and in masses or clumps; the Pine, on the contrary, requiring much room, or it will grow slender and throw out no side branches. The Hemlock seems to grow the more thrifty the more it is crowded. Twenty young trees will unite into one impenetrable mass of verdure. As they grow large the smaller die out, and the large trees form the densest shade of our forest—so dark that no underwoods grow beneath them. The greatest beauty of the young Hemlock may be seen where they spring up by thousands in our open pastures, always arranging themselves in groups that no art could mend. I think the finest large Hemlocks I have noticed were on a mountain top, where a small number had been left by the wood-cutters. These trees, dwarfed by the bleak mountain air, had stems of great thickness, surmounted by an unusual breadth of the thickest dark green foliage. They produced that effect of breadth and massiveness usually wanting in our forest trees.

The *Fir Balsam*, when of large size and in open ground, is sometimes of remarkable beauty. The lower branches, if they remain thrifty, droop beautifully.

The *Larch* also requires room and age to develop its beauties. I think it is our usual fault in planting, that we plant too much in groups, for immediate effect, and so rarely see the greatest beauty our trees might attain. Also, we do not take pains enough to have our trees branch low, which is essential to produce massive trees and massive effects. A trunk that branches at six or eight feet from the ground, can bear a vastly greater weight than one of the same size that is twice that height; and nature always follows the hint. When the trunk is short, the main limbs become subordinate trunks, and acquire a greater size than they could maintain on a tall trunk.

To return to individual sorts. The *Elm*, even when thrifty, often grows lanky and

slender, and not sufficiently furnished with branches. If the principal part of the top be cut out low down, in healthy trees, even of large size, it seems to produce a thicker habit and vigorous growth. In one instance, a neighbor informs me that he cut two cords of wood from the centre of an Elm, some forty years ago. This tree is the largest and finest in the neighborhood; and though the work was roughly done, shows no signs of decay. Another tree, about forty years of age, has so thick, beautiful, and regular a head, that it is universally remarked. This, I have been told, was produced in the same manner.

The *Birch*, Yellow and White. Single trees on the edge of an evergreen wood, produce a charming effect of contrast.

The *Maple*. Its form is too regular usually to produce single standard trees, comparing with the Oaks, Chestnuts, and many others; but it forms the most beautiful groups. The *White Ash* changes in autumn to a deep, slatey purple—so remarkable among the gaudy colors of the Maple, that the eye at once detects a single tree on a mountain side. I would always plant a single tree in the groups of Maple.

To produce the most beautiful effects of autumn tints in a plantation, the pure lemon of the Yellow Birch, and the dark green of the *Hemlock*, must no more be omitted than the scarlet and russet of the *Maple* and *Oak*. The *Beech*, also, its green leaves unwillingly turning to brown on the outermost edges, is an exquisite tree in autumn, as at what season is it not? Why is it that the *Beech* is so little cultivated, and that we so rarely see this most beautiful of deciduous trees in perfection in this country.

The Mountain Ash is a charming tree, with its formal shape and scarlet berries, but it must be backed by tall evergreens to be seen to advantage. Formal, upright trees usually require a background of verdure, though occasionally a single one may stand out against the sky with great effect, in contrast with other forms. Avenues especially produce a meagre effect, when

they consist of formal or regular trees. Even the Maple grows too uniform and globular. The Chestnut is very desirable for this purpose. With the exception of the Oak, which we cannot wait for, the Chestnut, when growing alone, produces the most massive and varied forms of any tree I know in these parts.

The beautiful thorns that grow in abundance among our hills, are a singular instance of the effect of form apart from size. Aged trees, of a century's growth, with their broad flattened heads and short massive trunks, suggest ideas of venerable antiquity that the upstart Maples beside them can never attain. I have noticed the same effect in a few aged Apple trees, and have two in my mind that I would gladly transplant as ornaments to my house. There is another form of the thorn which is very beautiful, and easily produced. A stocky thorn, transplanted into rich ground, and headed down with those out-

side shoots and suckers, which, with a little care to prune a straggling limb, will produce a rounded pyramid or sugar loaf of solid green. I have seen beautiful thorns of this shape in the meadows, pruned only by the mower's scythe.

Unique effects are produced by the dwarfing effect of the exposed and open sides of our bleak mountains. Oak trees of great age, with wide, spreading arms, their tops not more than fifteen or twenty feet from the ground, and diminutive forests of Beech, of a similar character, make you believe that you have reached the country of elves and pygmies. The mountain pastures and the charcoal tracts, sometimes of thousands of acres, without fence or house, presenting large spaces of open ground, broken by groups of second-growth wood, and with every varied form of ground, from ravine to mountain, present a charming field for observation to the lover of the picturesque effect of trees.

GRAPE REPORT FROM KENTUCKY.

BY C. P. HALE, CALHOUN, CO. KY.

EDITOR HORTICULTURIST.—I have taken some notes on grapes and grape vines, which I give you for what you may think they are worth.

May 12, Clinton commenced flowering.
May 15, Bush grape " "
May 21, Hartford Prolific commenced flowering.
May 22, Delaware commenced flowering.
May 23, Concord and Catawba commenced flowering.

May 25, Diana commenced flowering.
Clinton and Hartford Prolific ripe second week in August.

Concord ripe fourth week in August.
Delaware ripe first week in September.
Diana and Catawba ripe second week in September.

The Isabella is somewhat later in ripening here than the Catawba; rots worse, and is not near so good a grape. I am

cutting my vines down, and grafting on them better kinds.

Now I will tell you what I think of the quality of the grapes named, the best first.

The Delaware is the best, and the greatest objection I have to it is its small berries, wedged together so closely that one can scarcely be pulled off without smashing it, and perhaps others. The Diana is next best, and Catawba next. Concord next. Hartford Prolific next. This grape is not good, compared with the others, but its earliness and productivity will make it worth cultivating here. Clinton too sour to eat. The Bush grape I think worthless, except for its sweet flowers.

Now, if you have not heard what kind of weather we had here during the Summer, I will tell you. From about the 23d of June until late in July, we had almost

continued rain and dark, cloudy weather. The balance of the summer and fall almost continued dry weather. Now, if I am allowed to say any thing about mildew and rot, I must say there was not a variety of grape I had bearing that did not lose fruit by one or both. I had as well be told that a person raised on the mountains of Virginia or Pennsylvania, and located on the banks of Green River, would not have theague, as to tell me that a grape will not mildew or rot under some conditions of weather we have here some seasons, for I should not believe either.

Last fall I sent to Dr. Grant, of Iona, N. Y., for a number of his best varieties of grapes for the purpose of experimenting with them in this climate. He sent me two of each kind of what he said were his No. 1, one-year old vines from single eyes, (except of Delaware 15 or 20 vines.) They were all grown near each other under the same treatment. Leaves and green wood destroyed October 5th. Now I will give you the length of vine, number of joints, and of ripe wood made by each, as near as I could tell by measuring and counting.

Delaware, 39 joints, 35 ripe wood, 6 feet 10 inches long.

To-Kalon, 21 joints, 19 ripe wood, 4 feet 8 inches long.

Allen's Hybrid, 26 joints, 1 ripe wood, 3 feet 2 inches long.

(The leaves of this were destroyed by

blight, and the wood did not ripen.) Pauline, 18 joints, 5 ripe wood, 1 foot 8 inches long.

Elsingburgh, 24 joints, 18 ripe wood, 3 feet long.

Alvey, 29 joints, 22 ripe wood, 4 feet 6 inches long.

Rebecca, 24 joints, 16 ripe wood, 5 feet long.

Union Village, 41 joints, 34 ripe wood, 9 feet 6 inches long.

(Of this there were two vines of about equal strength.)

Lincoln, 35 joints, 28 ripe wood, 8 feet 4 inches long.

Herbemont, 40 joints, 32 ripe wood, 8 feet 6 inches long.

Lenoir, 26 joints, 22 ripe wood, 4 feet long.

(This lost its leading shoot by blight, and put forth many strong laterals, which were not measured or counted.)

Logan, 20 joints, 17 ripe wood, 2 feet 5 inches long.

Anna, 23 joints, 18 ripe wood, 4 feet long.

Cassady, 35 joints, 29 ripe wood, 7 feet long.

(One of the two of this kind failed to grow.)

Cuyahoga, 25 joints, 15 ripe wood, 3 feet 3 inches long.

If I shall be permitted to see these vines mature fruit, I shall be pleased to give you some notices of them.

NEW OR RARE PLANTS, &c.

We cull from foreign files the following new or rare plants, and add some of domestic origin.

AZALEA.—*Forget-me-not*, (Ivery.) Described by Mr. Ivery as "Dwarf, compact habit, with small, neat foliage, the color a purplish red, with rich markings in the upper segments, and quite distinct from any other kind."—(*Floral Magazine*, pl. 193.) Has to us the appearance of being a well-formed, beautiful flower.

ITALIAN VERBENAS.—This name has been given to a class of Verbenas that are "mottled, striped, and dashed in a very peculiar manner." They are in the same strain as some raised in this country by Peter Henderson and others, but no better in marking, and not as good in outline. If our foreign cousins had been a little more enterprising, they might have had the same style of Verbena from this country four or five years ago, and in that case they

might probably have been called American Verbenas. As some years ago it was asked in Europe, "Who reads an American book?" so it may now be asked, "Who sees an American plant?" As the one question has already been answered, so, no doubt, the other will soon be. It has always been a mystery to us, that while American florists import about every thing new that appears abroad, their European brethren, either from lack of enterprise or want of interest, fail to secure the good things that originate among us. There is probably but one good reason for it; for it will not do to say that Europeans are content with their own. The *Floral Magazine* (pl. 195) figures three of the best of these so-called Italian Verbenas, raised by Cavagnini Brothers, of Brescia, of which it says, "They want that shape, contour, and substance which are obtained in the self-colored varieties of English and French origin; yet, as indicating a step in an entirely new direction, they are very valuable." The editor describes them as follows: "*Pallavicini di Brescia* is the best formed among those that we have seen, but then it is not so regularly striped as the others. It has a white ground with a brilliant crimson blotch in the centre of the pip, more or less filling it up, while it

is also blotched and spotted with the same color on the edges of the segments. *Conte Bernhardino Lecchi* has a white ground striped with crimson violet; the pips are small, but round, while *Caroline Cavagnini* is irregular in shape, but distinct in color, being a white ground striped with scarlet. As far as habit is concerned, we do not think, save *Pallavicini di Brescia*, that they are as vigorous as the older varieties." Mr. Peter Henderson's seedlings, on the contrary, are quite as vigorous as the average of the old kinds, and *Bizarre* and *The Banner* more so than many of them.

CAMELLIA, Conte de Gomer.—The striped varieties have of late years been more of those on white grounds, such flowers as *Countess of Derby* and *Countess Lavinia Maggi*, most beautiful, indeed, and well meriting the favor with which they have been received; but in *Conte de Gomer* we have a flower of a very different character. It was raised in Brescia (Italy) by *Conte Bernhardino Lecchi*, a well-known and ardent horticulturist. The color is a soft, beautiful rose, striped with broad and narrow bands of crimson. It is of large size; the shape of the petals is good, and the flower itself well imbricated.—(*Floral Magazine*,

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications for the Editorial and publishing departments, to Geo. E. & F. W. WOODWARD, 37 Park Row, N. Y.

Mr. Peter B. Mead has disposed of his entire interest and good will in this Magazine, to Messrs. Geo. E. & F. W. Woodward, both of whom have for some years past been connected with its editorial and business departments. The future

publication of the Magazine will be continued under their management, and in all respects will be kept fully up to the highest standard, and made of constantly increasing value.

STRAWBERRY SHOW AT THE AGRICULTURIST OFFICE.—This show was held on the 15th and 16th, as announced, and proved to be a very interesting affair, though not so large as that of last year. The day was too early for some of our large growers; and besides this, many flowers had been blasted. One of the most attractive features consisted in enormous plants of the Agriculturist and the Green Prolific, the first exhibited by Mr. Carpenter, and the last by Mr. Durand. They are both enormously productive, the Agriculturist being the most so.

The first prize for twelve varieties was taken by Mr. Francis Brill, of Newark, N. J., and the second by Mr. Heins, of Morrisania, N. Y. For a market berry, the Triomphe de Gand, Union and Bartlett, were entered. The Triomphe exhibited by Mr. George Herbert, of Peekskill, were very fine, and took the first prize. The second prize was given to Mr. Fuller for the Bartlett, the Union being considered too soft for a market berry, though it is large and handsome. Lanning's White, exhibited by Mr. Heins, took the first prize among white strawberries. Mr. Fuller took the first prize for Alpines. The prize for the highest-flavored berry was awarded to the Brooklyn Scarlet, shown by Mr. Fuller. The prize for the three largest berries was given to Mr. Herbert, for Triomphe de Gand, weighing nearly one ounce each. There were only two seedlings that came under the rules, and Prof. Huntsman's Emily got the first prize. This is a handsome and delicious-flavored berry, resembling one of our own seedlings in color, and still more in flavor. Singularly enough, as we afterwards learned, they are both hybrids, containing the same strain of blood. A very fine sample of Triomphe de Gand, exhibited by Mr. Conover, received a special prize, and Mr. Durand's Green Prolific received special commendation, as did also a plate of the Union, shown by Mr. Trembley. Mr. Williams's plate of Ward's Favorite was commended for flavor. Mr. Carpenter's splendid plant

of the Agriculturist, did not come in till after the judges had finished their examination.

MR. EDITOR.—Why can not the *fêtes* of the Royal Botanic Society of London, held annually in Regent's Park, in the months of May, June, and July, be successfully imitated by the Horticultural Society of the American Institute? The Commissioners of the Central Park would undoubtedly assign a place for the exhibition, where, under a large awning or tent, the finest specimens of our florists could be shown to the greatest advantage. Not only would the exhibition be attractive, but a small charge for entrance fees would pay all the expenses attending the exhibition, besides putting a considerable sum into the treasury of the Society.

The exhibitions as now held do not bring our rare and beautiful flowers sufficiently before the general public. As proposed above, the taste for flowers would be increased and extended, and the florists themselves be greatly benefited. Let the Horticultural Society place this matter in the hands of an energetic committee, and another season we can have an exhibition that will attract the lovers of flowers from all parts of the country. F. F. R.

AMERICAN POMOLOGICAL SOCIETY.—In order to give as much publicity as possible to the forthcoming meeting of the American Pomological Society, we herewith print its Circular, recently issued.

" In conformity with a resolution adopted at the last meeting of this national association, the undersigned give notice that its Tenth Session will commence in Corinthian Hall, in the city of Rochester, N. Y., on Tuesday, September 18th, 1864, at 12 o'clock, noon, and will continue several days. All Horticultural, Pomological, Agricultural, and other kindred institutions in the United States and the British Provinces, are invited to send delegations, as large as they may deem expedient; and all other persons interested in the culti-

vation of fruits are invited to be present, and to take seats in the convention.

"The Great Annual Fair of the New York State Agricultural Society will be held at Rochester on the following week, so that delegates who desire to do so can attend both meetings, and those who contribute collections of fruits to the Pomological Society can afterwards exhibit them at the State Fair.

"Throughout a large portion of the country the prospects of the fruit crop are very encouraging; and as the Fruit Growers' Society of Western New York will place its entire collection at the disposal of the American Pomological Society, a display of extraordinary interest may reasonably be expected.

"Among the prominent subjects which will come before the Society at this session will be that of the revision of the Society's Catalogue of Fruits. The Special Committee appointed for this purpose are now, with the various State and local committees, actively engaged in collecting such information as will aid in determining what varieties are best adapted to the different sections and districts of our country, and this information, in the form of reports, will be submitted to the action of the Convention.

"All the States and Territories are urgently invited to be present, by delegation, at this meeting, that the amicable and social relations which have heretofore existed between the members of the Society may be fostered and perpetuated, and the result of its deliberations, so beneficial to the country at large, be generally and widely diffused.

"Members and delegates are requested to contribute specimens of the fruits of their respective districts, and to communicate in regard to them whatever may aid in promoting the objects of the Society and the science of American Pomology.

"Each contributor is requested to come prepared with a complete list of his collection, and to present the same with his fruits, that a report of all the varieties

entered may be submitted to the meeting as soon as practicable.

"All persons desirous of becoming members can remit the admission fee to THOMAS P. JAMES, Esq., Treasurer, Philadelphia; or to the President at Boston, who will furnish them with the Transactions of the Society. Life membership, Ten Dollars; Biennial, Two Dollars.

"Packages of fruits may be addressed as follows: "American Pomological Society, care of JAMES VICK, Rochester, N. Y."

"MARSHAL P. WILDER, President.
"JAMES VICK, Secretary."

LEAVENWORTH (KANSAS) HORTICULTURAL SOCIETY.—Our Kansas friends, fully alive to the importance of Horticulture, about a year since formed a Horticultural Society at Leavenworth, and we are told that it is now going on prosperously. The officers for the present year are as follows:

President, Dr. Wm. M. Howsley. *Vice-President*, J. R. Whitehead. *Recording Secretary*, J. C. Walkinshaw. *Corresponding Secretary*, Dr. J. Stayman. *Treasurer*, William Tanner.

WORCESTER COUNTY (MASS.) HORTICULTURAL SOCIETY.—The Twenty-fifth Annual Exhibition of this Society will be held at Horticultural Hall, Worcester, Mass., from the 20th to the 23d of September next. The prize list is a very good one, and should insure a liberal show from old Worcester.

MISSOURI STATE HORTICULTURAL SOCIETY.—The annual meeting of the Society was largely attended, and the proceedings were unusually interesting. We present a brief abstract of the results.

The proceedings were opened on the first day by an interesting address from President Mudd, in which he reviewed the labors of the Society for the past year, and its prospects for the future.

After the usual routine business, the discussion of apples was taken up, and the following were adopted for market, viz. :

Early Harvest, Early June, and Red Astrachan.

The following were then adopted for family use: Sine qua Non, Early Harvest, Sweet June, Early Strawberry, Summer Queen.

The five best fall market apples were next taken up, and an interesting discussion followed as to what were and what were not fall apples. The following were finally adopted: Rambo, Maiden's Blush, Hubbardston's Nonsuch, Fameuse, Ramsdell Sweeting.

The preceding market list was then adopted for family use.

A list for winter was then taken up, and divided into early and late winter, and the following adopted for early winter: Wine Apple, Smith's Cider, Fall Queen, Pryor's Red, Rowe Beauty, Red Canada, Red Sweet Pippin.

The following were adopted for family use: Yellow Bellflower, Peck's Pleasant, Rhode Island Greening, American Golden Russet, Jonathan, Lady Apple.

Mr. George Husmann next read an interesting essay on "The Adornment of our Homes," which was warmly received.

Mr. Carew Sanders then read an address on "Flowers and their Culture," which was also well received, and, with the essay of Mr. Husmann, ordered to be printed.

Next in order came late winter apples, and the following were adopted: Rawles' Janet, Newtown Pippin, Michael Henry Pippin, Willow Twig, Wine Sap, Gilpin, Ben Davis, Ladies' Sweeting.

The following four were adopted for cider: Howe's Virginia Crab, Gilpin, Newtown Pippin, and Harrison.

HORTICULTURAL ASSOCIATION OF THE AMERICAN INSTITUTE.

A MEETING of this Association was held on Tuesday, May 31, 1864, at 8 o'clock P. M., at the rooms of the Institute, in the Cooper Union Building, N. Y.

After the usual preliminary business was transacted, the President remarked that

he noticed a very beautiful bouquet on the table, and its style clearly indicated from whom it came. He called on Mr. Wm. R. Prince for a few remarks on the flowers of which it was composed.

Mr. Prince said the flowers were cut promiscuously that morning, at the suggestion of the Secretary. They are all herbaceous plants, which are now beginning to bloom. The principal part of these flowers are the Peony, of which there are a great many varieties, but the majority of them are natives of Tartary, Japan, and Pekin, the northern part of China, which is nearly in the same latitude as this city. The cultivation of these flowers here does away with the impression that gorgeous flowers appertain to the tropics. There are few better flowers than the Chinese Peony. There are perhaps one hundred kinds of them that have odor. Some may suppose they are roses. Most of the old peonies are scentless. One variety is called *endulas*, in consequence of the root being used as food in the southern parts of Europe, particularly in Spain. There are two or three species of the Peony in the Levant, and also in California.

The tree Peony, is supposed by many to be too tender for out-door culture, and is thrust into pots, whereas it ought to be put in the coolest place in the garden. It will flourish as well on the ramparts of Quebec as here, and the reason it fails with amateurs is, that they take too much care to put it in a sunny place.

Mr. Mead said he noticed some desperate looking branches on the table, and suggested that Dr. Trimble say something about them.

Dr. Trimble said he had no doubt that most of those present were aware that the cherry crop, that is, of the very fine kind of cherries, will be very deficient this year. The trees blossomed as usual, but the long-continued wet weather, and heavy showers caused the petals of the blossoms to decay and fall off. This, with the lengthened wet season, giving them no chance to dry, they rotted, so that the crop

of good cherries is entirely destroyed. The pear and apple were in blossom at the same time, and much of these fruits will also fail; but there are some good apples that have been saved. This is a branch of a very fine kind of French cherries that have been destroyed, in his neighborhood this season. The apple trees this year, of which we have here a specimen, at one time were in this condition. On examining closely the leaves, the *Aphis*, that scourge of the rose bush, was found there, and their destruction of the early leaves has diminished the crop very materially. Here are two branches of the apple tree, and they all present this appearance. This is due to the ravages of the well-known canker worm. In New England nearly all the leaves of the early trees have suffered from them; but the worms have since fallen to the ground, as this season there were more leaves than the worms wanted.

The *aphis*, which is the most universal of insects, and one that increases the most of any, has an enemy in the lady-bug. You can scarcely take up a bud but you will find some of these bugs in search of the *aphis*. He had sometimes fed these lady-bugs with the *aphis* placed on the point of a knife, and this season he was enabled to discover that these insects have a particular fancy for the snowball flower. When this flower does not flourish, if the leaves are examined, they will be found to be perfectly alive with the *aphis*. There is a prevailing opinion that the different color of these insects is owing to the food they eat; but microscopic examinations showed them to be of different species. Birds are very fond of them, and I have known of an instance where the snowball appeared to be almost entirely destroyed, when the birds came, and they picked off all the insects, and after that they flourished very luxuriantly. The birds that feed on these insects are very numerous; all those charming birds that remain with us but a few days, and then go further north, such as the warbler, oriole and cedar bird, are their enemies. If our pub-

lic parks are visited, the shrill notes of the cedar bird are heard. They are great friends to us in destroying these insects.

He had here, in this bottle, some three or four specimens of the *cuculio*, that enemy of the fruits of our country. He did not know of many bugs or birds that fed on them, but he found that the oriole does, and they are probably the food of those kinds of birds that feed on beetles.

Mr. Wm. R. Prince then read the following:

The grass specimens sent to the society by Mrs. Mary Treat, of Iowa, are:

Hierochloa borealis, Seneca grass or Sweet Summer grass, described by Torrey & Gray, and in Eaton's Manual of Botany. It is perennial, and found abundantly in the Newark and Hackensack meadows, in the environs of Seneca lake, and in many localities in the western states. It is remarkable for its sweet and pleasant odor. It is a native, creeping species, and spreads rapidly. In the eastern hemisphere, however, they possess a grass of a distinct genus, which presents a counterpart of our own Seneca grass, as to character.

The *Anthoxanthum odoratum*, or Sweet-scented Vernal grass, which has a similar sweet and agreeable perfume. It is a native of the northern countries of Europe, and for the simple circumstance that it is an exotic and far-fetched, it is much cultivated in the flower borders of our gardens, while acres of a native grass, of a similar and in some respects of a superior character, which absolutely surround this city, are passed by daily, unnoticed and unknown.

The subject of the evening, "Early Fruits," was then considered.

Mr. Wm. S. Carpenter said, he was passionately fond of fruit culture, and took a deep interest in the improvement of flowers. We see every season what great improvements have been made in flowers all over the country by the horticulturists, and the improvements of different kinds of fruit that were originally worthless. This would go to show that they were left by

the Creator for man to cultivate and improve. Some persons, who see these bouquets on the table, may think that the flowers were made so originally by nature, but they would scarcely be recognized as belonging to the original. It was so with the wild crab apple and native strawberry. These fruits were made what they are by cultivation and by crossing. An advantage we have over former times is, that we are not now confined to fruits that grow in our neighborhood. Who is there now that is satisfied with tasting fruit raised in his own country? We have before us flowers, most of them came from Europe; some from Japan and China. This latter country has contributed largely in flowers, but little in fruit. Perhaps France has done more for the cause of horticulture than any other country. He had within the last few years endeavored to collect the fruits of that country, and now had in his possession most of the fruits that are approved there, and the possession of which is ample compensation for all his labor in collecting them. He felt a pleasure in working among the trees that are yearly producing their luscious fruits, not only for the good they afforded him, but for the pleasure he derived in distributing them among others.

P. B. Mead then made some remarks on the strawberry. There is a class of cultivators who look upon its culture entirely with reference to profit, while with the amateur it is a matter of pure taste. An amateur who grows strawberries only for his own table, wants a tender, juicy, high-flavored berry; and if size and beauty are added, so much the better. For his own part, he would prefer a moderate crop of Burr's New Pine, to bushels of Wilson's Albany. He was becoming rather nice in his taste, and would choose a little that is good to a great deal that is bad. Amateurs would select high-flavored berries, and turn over the Wilson to those who grow for the market. Now is it good policy for horticulturists to pander to uneducated tastes? or should they not rather

aim at a higher standard? One of the objects of a Horticultural Society, like this, is to establish a standard of taste. The public buy fruit with the familiar names without much regard to quality, and are often imposed upon.

The Bartlett is a good pear, and people know it to be so; but the uneducated are often imposed upon by persons selling inferior pears under the name of Bartlett. The people need information such as they can only obtain by attending Horticultural meetings and fruit shows. Dealers in fruit constantly deceive, instead of instructing the people. The summer Bon Chretin, an inferior pear, is often sold in this city under the name of Bartlett. People need to be educated by the eye and taste. He gave half of a pear to an individual, telling him it was the Bartlett, which he pronounced to be very fine; then he gave him the other half under another name, which he said was not near as good as the first. He ventured to say that examples of this kind are very common.

There is a great diversity of opinion in regard to the foreign strawberry. He was inclined to think that they are not adapted to our country. The Triomph de Gand, La Constante, and a few others, he had seen grown very successfully here, but there was no foreign strawberry that will compare with our own native varieties for hardiness. It is not underrating foreign strawberries to say that they will not suit our climates. He had at one time 360 different kinds of strawberries. Many of them were from abroad; but he found that most of them required a great deal of nursing, more than he wished to give them, and after two or three seasons he threw many of them out, and he would advise others to do so, and replace them with our native varieties. The soil that he found best adapted to the strawberry and fruits generally, was one abounding in carbonaceous matter, such as muck, decayed leaves, &c. This is Nature's pabulum; it is that on which she nurses her first-born; it is that upon which she builds her forests,

and upon which she feeds her choicest productions. What is wanted is a light, carbonaceous soil, and a little manure with it. The carbon can be got into the soil in the form of muck, leaves, charcoal dust, etc.; the manure should be old and well rotted. With such a soil there would not only be an abundance of fruit, but also of good quality.

ORNAMENTAL TREE PLANTING.—In travelling through the states of the Union we find that all other kinds of improvements take the lead of ornamental planting. The eastern states afford many fine examples of perfected skill in landscape gardening, but, as we go west, these instances become more and more rare. We once drove many miles through different parts of a western city, containing beautiful buildings and many thousand inhabitants, in order that we might be refreshed with the sight of a garden, but not a single one truly deserving the name could be found. No wonder that Lord Bacon, should have remarked, centuries ago, that "when ages arrive at civility and elegancy men come to build stately sooner than to garden finely, as if gardening were the greater perfection."

We should like to show some of our countrymen who appear to hate or despise trees, what kind of an earth we should have without any, by placing them for a moment in the midst of the great Desert of Africa, where all they could see would be "a wild expanse of lifeless sand and sky." We think they could hardly avoid admitting that the coolness of a shady grove would be preferable."

The practical conclusion to which we arrive is—1. Be extremely cautious in cutting down a tree. It has, perhaps, been a century in growing, and it will require another century to replace it. 2. Do not procrastinate in tree planting—put off any other work, but do not neglect this, because every year lost is an equal loss in refreshing beauty to every man's life. Get the trees started, and then they will grow while other matters may be attended to.

In a few days the time for planting will have arrived—make your arrangements, and be ready in season.—(*Country Gentleman.*)

DEAR FRIEND OF THE HORTICULTURE,—About a month since I saw announced in your journal, and also in another, a book entitled, "Flowers for the Parlor and Garden," and favorably noticed. I was induced to get it. I have read it. Shall I tell you what I think of it? The man that wrote that book has a heart; not a little, pinched, dried-up thing, but a heart that throbs nobly; that comprehends the rights of women; a heart to teach the uninformed and give them knowledge, hopes, aspirations, and promises for the future. He has understanding also. He knows that the beautiful tinted papers and delicate sheets of wax are useless in a lady's hand, unless she is instructed how to use them; and, to be homelier, is aware that our worsted stores would never flourish did not the pretty German girls patiently give their time and taste to teach the stitches and select the colors, and has come to the conclusion that it is the want of knowledge which has kept flowers, with their "sunny light and ennobling influences," from our rooms, instead of a non-appreciation of their beauty. Now I know why my Camellia buds stayed so long *in statu quo*. I gave them water once a fortnight, for fear that I might come under the head of that class of ladies who fed and watered their plants to death. I shall now know what to do with my poor rose bush that came from the florist's last winter so full of bloom, and has nary a bud now, and I have new courage to grow some violets. I mean to have six roses instead of one, and a pink and red Camellia, besides my white one. I shall try new seeds, bedding plants, and shrubs, not minding cost or trouble, if success such as a woman has a right to expect crowns my efforts. Remember, my dear friend, this is strictly confidential; for if I should not succeed I may not wish the world to know I am too stupid to un-

derstand things so plain that " he that runs may read."

Yours truly,
WOMAN'S RIGHTS.

NEIGHBOR JACKWOOD.—A novel by J. T. Trowbridge. Published by J. E. Tilton & Co., Boston. Price \$1.75.

LITTLE REBEL.—A very well written story for children. Published by Messrs. J. E. Tilton & Co., of Boston. Price 75 cents.

WAX FRUIT AND FLOWERS, and how to make them. Published by J. E. Tilton & Co., Boston. Price \$1.50. This work gives carefully prepared and illustrated instruction in the art of making wax flowers and fruit, with new methods of sheeting wax and modelling fruit. It treats the subject in a thorough and concise manner, and is a valuable guide in this department of Art, enabling one with study and care to become an expert. Making wax flowers is not only first rate practice for those who desire to become practically acquainted with the form, color, and arrangement of flowers, but is a profitable pursuit in a money point of view. The typographical skill and beauty displayed

in this book are characteristic of Messrs. J. E. Tilton & Co.

LOWER CANADA AGRICULTURIST.—Published at Montreal, under the direction of M. J. Perrault, member of the Provincial Parliament, and of the agricultural schools of Grignon, Seine, and Oise, France, and of the imperial Zoological Society of Paris, &c. This paper appropriates regularly whole pages of the copyrighted articles of the Horticulturist, even to the Monthly Calendar, without the slightest credit.

COUNTRY GENTLEMAN.—Published weekly, 16 pages quarto, by Luther Tucker & Son, Albany, N. Y., \$2.50 instead of \$2 per annum. As this sterling agricultural journal has, we were going to say, raised its price, but such is not really the case, we shall hereafter require four dollars to be sent to us when clubbing with our magazine. The price of the Country Gentleman should have been made \$3.00, and at this price should be seen upon the table of every Farm House in the land. We commend it to all as a Journal of great merit and a profitable investment for every one who cultivates the soil.

Correspondence.

PORT HENRY, N. Y., June 10, 1864.

EDITOR OF THE HORTICULTURIST: In your June number I notice your correspondent, "Pratiquer," says he wants to be enlightened in regard to the Adirondac grape, its origin, hardiness, &c., and whether I or any of my family have set out any vines on that strip of ground, &c.; and he says, "I have examined the leaf of the plant sent out by Mr. Bailey, and must say that to me it has the appearance of the *Vitis Vinifera*."

I will answer briefly.

The narrative given by Mr. Bailey, when he first introduced the Adirondac to the

public, of its discovery and supposed origin, is a true statement, as I gave the facts to him at the time; and no subsequent facts have come to my knowledge to change my belief. As to its hardiness, I will say that fact related, of the young shoots killing back the first winter, I do not regard as evidence of its being less hardy than Isabella, Delaware or Concord; for I have never found a yearling vine of either of these kinds to stand the winter here. It is my practice to cover my vines for winter. I give the Adirondac no better protection than the others, and have observed no difference in regard to the

hardiness. I have planted no vines in the immediate vicinity of the original Adirondac.

In your reply you give hearsay information which might be important if true, but it is deficient in that essential quality. Mrs. Witherbee did not raise it in a pot from seed taken from a raisin; nor had she anything to do with its production; and it is not true, as you have further learned, that these facts have been known from the beginning to those interested.

Please be kind enough to give the truth the same circulation as you have given to the error.

Yours truly,

J. G. WITHERBEE.

NORFOLK, CONN., June 2, 1864.

EDITOR HORTICULTURIST:

Dear Sir: Permit me, through your columns, to give the result of my experience thus far, with the Adirondac vine, to the public. I have now had about fifty vines through two winters and one summer. With me, in the Northern part of the State, and one of the coldest towns, it is perfectly hardy. I find it a vigorous grower, and never a leaf yet has shown the least mildew. Perhaps you will call me an interested party; but I have just the same amount of interest in the Iona, Isabella, Creveling, &c., and *no more*.

A gentleman in Norwich, Ct., writes me that he fruited the Adirondac last season, and speaks in the highest terms of it, saying that in his opinion, "it stands first on the list of hardy grapes." I can not see why the Adirondac should not be permitted to have a fair trial, and prove its good or bad qualities, without such effort being made to prejudice the public against it in advance.

Yours, J. W. COX.

WHITE HALL, ILL., June 1, 1864.

MR. EDITOR:—Seeing many articles from western grape growers disparaging the claims of the Delaware grape, I have thought to give you my experience, as, so far, it differs so materially from most others. The spring of 1863 I procured

one hundred and twenty-five Delaware, (one year old, small roots.) During the dry summer I lost a few vines, the fault being in the vines. From the rest I obtained an average growth of five or six feet of good, well-ripened canes; cut them back in November to about four eyes, and covered them, except a few, which I left uncovered to test them. We had a severe winter, thermometer sinking to 28 degrees below zero. I found my Delawares all right, even those left exposed. Rebeccas also stood the test. Another, supposed to be the Anna, was not injured. Diana, Herbemont, Hartford Prolific, Isabella, Catawba, and several other varieties killed to the ground, where uncovered.

At this writing my Delawares, growing two canes, have made from three to four feet growth, and are setting from two to six clusters of grapes. They are remarkably vigorous and healthy—as much so as any of some eight varieties grown by me.

I will give you some results in future.

B. G. CULVER.

ELSAH, Jersey Co., Ill., Jan., 1864.

EDITOR HORTICULTURIST.—We have had a very pleasant week at the Missouri Horticultural Society. The show of Wines was unusually large, and by experienced tasters the vintage of 1863 was pronounced to be of the very best quality. The Committee on Wines proceeded to classify the wines as follows: White Wines, Red Wines, Mixed Wines, and Sweet Wines. Of the White Wines, "Delaware" was pronounced best, one sample only competing with other wines of this class. Red Wines, "Clinton" best, though we had some samples of "Norton's Virginia" that were hard to beat. Mixed Wines, a wine made from equal parts of "Concord" and "Norton's Virginia," was pronounced of excellent quality, and holds out inducements for others to experiment in this way. Sweet. The "Cunningham" was an excellent "sweet wine," suited to the palates of the ladies.

Yours truly,

JAMES E. STARR.

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THE
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Journal of Rural Art
and Rural Taste.

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THE
HORTICULTURIST.

VOL. XIX.....AUGUST, 1864.....NO. CCXVIII.

THE SIGNIFICANCE AND DIGNITY OF COUNTRY LIFE.

We hear a great deal of vague and loose talk about the beauty of the Country and the delights of COUNTRY LIVING among persons who have had very little experience of the latter and who possess very little capacity for the enjoyment of the former. It is one of the requirements of fashion or custom for the better-to-do class of our citizens to spend a portion of the season either at the sea-side, or in the upper country; and with many of them this custom has become a necessity, and positive advantages accrue to them physically, if not morally, in the change of air, objects of interest, and modes of living. Considerations of health, also, induce many families to repair to the country, where the children, emancipated from many of the city restraints, and let loose to a wider range of the free air and bright sunshine, undoubtedly thrive better, in every way, than they could possibly do in their narrower city homes.

But this, we take it, is not what is meant by country living; nor is there in these instances any real appreciation of the meaning or dignity of Country Life. To appreciate them, one must *live in the country*, with all the appliances and comforts of *home* about him; not as a visitor or an occasional sojourner, but as one "to the manor born."

It is not impossible, we fully comprehend, for the citizen—the *habitué* of pavements and avenues—to enjoy in brief and occasional visits, the beauty and freshness of the country, and his enjoyment is not merely poetic and ideal. With true and profound appreciation he looks upon

"the skies, the clouds, the fields,

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The happy violets hiding from the roads,
 The primroses run down to, carrying gold,—
 The tangled hedgerows, where the cows push out
 Impatient horns and tolerant churning mouths
 'Twixt dripping ash-boughs,—hedgerows all alive
 With birds and gnats and large white butterflies
 Which look as if the May-flower had caught life
 And palpitated forth upon the wind.
 Hills, vales, woods, netted in a silver mist;
 Farms, granges, doubled up among the hills,
 And cattle grazing in the watered vales,
 And cottage-chimneys smoking from the woods,
 And cottage-gardens swelling everywhere,
 Confused with smell of orchards."

And seeing and feeling all this, he enjoys it with a keen sense of what is charming and transcendent in nature, fully sympathising with the gentle poet, and comprehending with her that "God is with us on the earth," and that the richest gifts of His hand are to be found where He has most profusely bestowed them, in the broad, open and smiling country.

But to know how to live in the country is quite a different thing, and sure we are that it accords with the experience of many a man who has abandoned the busy marts of trade for the delights of a country home, that in this matter "ignorance is" not "bliss."

There are certain conditions necessary to the due enjoyment of life in the country which ought not to be overlooked by those who propose to retire from business.—Among these we may mention two as absolutely essential—society and adequate employment.

We have inherited from our English ancestry a love for rural employments and a taste for rural beauty. The successful statesman, professional man, merchant, tradesman and mechanic,—all look forward to the period when they can retire from the more absorbing duties of their callings, and in communion with nature, enjoy that repose with which they have long desired to crown their declining years. But there are social natures, and they have long been accustomed to the delights and incitements of social intercourse. Set these men down in a retired country home, surrounded, if you will, with all that is lovely and picturesque, or grand and sublime, in scenery—woods,

streams, mountains, valleys—a perfect Arcadia—but without the charms of society to which they have been used, and even the glorious country, with all its beauty and inspiration, will soon become dull and prosaic. Books are a great resource for cultivated minds. Literature affords many inspirations and gratifications. But all these charms, even, will become wearisome and insipid without congenial society, the sympathy and friendly attrition of other minds with our own. But the seclusion of the country does not imply, of necessity, the absence of society; if it did, it would be manifestly unsuited to the most cultivated minds. All over the land there are neighborhoods where this genial and agreeable social intercourse may be enjoyed. Let the man, then, who is seeking a comfortable country home, provide that these refinements and gratifications of social life shall not be wanting. Pure air, bright sunshine, flowing streams, breezy hill-tops, charming reaches of landscape, excellent roads, trees, flowers, fruits—the whole garniture and glory of the perfect country—are all good and desirable, but to every mind capable of appreciating and loving these things, society is an indispensable need. Even at the feet of the Delectable Mountains, or in the "Plain of Jordan that was well-watered everywhere, even as the garden of the Lord," we must have friends about us to share our pleasures, to sympathize in our tastes, and to enjoy with us the delights of home.

Not less needful to the full enjoyment of rural life is suitable employment, which shall absorb a due proportion of our time, and impose a due burden of care. There are two mistakes to which men of active lives are liable on their retirement into the country. One is in providing nothing to do, and the other is in laying out too large an amount of work. The American people are somewhat ambitious. We have never had in our employment a raw lad from the Green Isle who did not profess to understand any and all kinds of work, or who would acknowledge his ignorance of the uses of any implement or tool of hus-

bandry, even if it happened to be yesterday's product of the inventive Yankee brain—and we have had some experience with this worthy class of able-bodied men of fresh importation. The home-born native American is, in that respect, very like the foreign-born. Your New York merchant or mechanic, who has been employed all his life with cotton-bales and their products, or with brown stone and mortar, retires to the country and commences farming on a large scale. He knows little or nothing of the composition of soils, or the nature of seeds, or the laws of vegetation. He may have had some experience with stocks in Wall street,—Bulls and Bears,—but precious little with farm stock, except through the medium of Washington Market. He is over-confident of his agricultural aptitudes and abilities. He undertakes too much. He produces grain and vegetables and other farm products at *gold* prices; they bring in market *greenback* prices. His farming is not a profitable speculation, estimating it by money values, or by the satisfaction it brings him, or by any other standard, and he becomes disgusted with the whole thing, and concludes that the country is a humbug, that country life has no dignity, and its only meaning is "vanity and vexation of spirit."

And his estimate is correct, as far as he is himself concerned. He has made an enormous mistake, and the best thing he can do is to sell off his extra five hundred acres, turn his full-blood stock into Terriers, discharge his numerous staff of Irish farmers, subscribe to the HORTICULTURIST, and confine his attention to the "farm of ten acres" he has remaining from his original domain, and employ his time, and the labor of his one faithful man-servant, in cultivating flowers for his wife and daughters, and raising peas and strawberries for the New York market. He must have employment for his hands and for his mind, and centre for his social sentiments and affections. He may have all these with his house, his garden, his graperies, his stable, his poultry-yard, his fish-pond, his dog-kennel, in his modest, well-selected library,

around his own hearth-stone, and in the interchange of loving, manly charities and social sympathies. Country Life, if rightly comprehended, has a serious significance and an exalted dignity. "To those in whose nature is implanted a sentiment that interprets the tender and the loving, as well as the grand and sublime lessons of the universe," a country life is "a life full of joy and beauty and inspiration."

And there is no land, we believe, on which the blessed sun shines in all his course, more beautiful than ours, with larger capabilities for that excellent culture, which will secure suitable country homes for the American gentleman. We have, as yet, only begun to develop these inexhaustible resources. Our rural improvements, our landscape gardening, our domestic embellishments, are as yet in their infancy. England, with her hundreds of years of careful and expensive cultivation, her exquisite taste in rural art, her immense wealth of the comparatively few landed proprietors, which is freely and lavishly expended in keeping up and improving her country estates, is far before any other land in the beauty and perfection of her country homes. Years and improving taste in rural affairs must do much for us, as much has been realized in the few years past. With the restoration of the peace and integrity of our land—for which she has our earnest prayers—we can anticipate what may be accomplished in the coming twenty years, by remembering what has been done in the past two decades.

"Who ever lives true life, will love true love.
I learnt to love that England. Very oft,
Before the day was born, or otherwise
Through secret windings of the afternoons,
I threw my hunters off and plunged myself
Among the deep hills, as a hunted stag
Will take the waters, shivering with the fear
And passion of the course. And when, at last
Escaped,—so many a green slope built on slope
Betwixt me and the enemy's house behind,
I dared to rest, or wander,—like a rest
Made sweeter for the step upon the grass,—
And view the ground's most gentle dimplement:
(As if God's finger touched but did not press
In making England!) such an up and down
Of verdure,—nothing too much of up or down,
A ripple of land; such little hills, the sky

Can stoop so tenderly and the wheatfields climb;
Such nooks of valleys, lined with orchises,
Fed full of noises by invisible streams;
And open pastures, where you scarcely tell
White daisies from white dew,—at intervals
The mystic oaks and elm-trees standing out
Self-poised upon their prodigy of shade,—
I thought my father's land was worthy too
Of being my Shakespeare's."

Such are the pictures of English scenery,

and the intimations of English life, which are presented by the poets. The years may come when American literature, moved by like inspirations, and furnished with as exalted themes, shall chant to listening ears in numbers as sweet as these, the beauties of American landscapes, and the happiness of American Rural Life.

COLD GRAPERIES FOR CITY LOTS.

We illustrate this month three graperies, designed and constructed by us for Mr. John H. Sherwood of this city, which are among the first, if not the first erected in New York as an elegant, substantial and attractive ad-

dition to three very superb palatial residences on Murray Hill, near 5th Avenue. These latter are buildings, such as, in style and workmanship, very few persons in this country, outside of New York, have seen,



Fig. 1.—Perspective View.

and such as but few of the first class builders of New York are competent to erect.

Centrally located in the aristocratic portion of a city noted for its wealth, taste and influence, these Graperies will be carefully watched as an index of what the future may do in the increased demand for houses on city lots for Horticultural purposes.

A full sized lot in the city of New York is twenty-five feet wide by one hundred feet in depth. The ground attached to each dwelling in this case is equal to two full sized lots, being twenty-five feet wide and

two hundred feet in depth. The dwellings front on Fortieth Street, behind which are the yards, twenty by twenty-five feet; then



Fig. 2.—Plan.

the Graperies, which are twenty-five feet by forty feet; then the coach houses, which front on and are entered from Thirty-ninth Street, thus using the whole space.

The graperies are intended to be used, without heat; but whenever desirable, heating apparatus can be easily introduced, and the grape season materially lengthened. For practical purposes only, and on open grounds, it would, perhaps, have been better to have built the houses lower; but as grapes are usually fruited next to the glass, the principal objection to high houses for grape culture is the extra labor in getting up to the vines for pruning and training. These houses are purposely built higher than is now usual, to give a finer effect from the drawing-room windows, and to secure, as far as possible, the influence of the sun's rays.

By the use of glass houses on city lots much enjoyment may be had by all who have a desire to spend their time in growing fine fruits and flowers. Pot vines and trees condense a vineyard and orchard into a wonderfully small space, and border vines yield a harvest of glorious fruit that surprises all not accustomed to seeing and eating such luxuries. Our city lots, with rare exceptions, are well adapted to the growth, under glass, of grapes and orchard fruit, and the forcing of vegetables. There are many of them somewhat shaded during portions of the day, yet the better protection is something of a compensation, and besides that, it is still an open question whether sunlight is alone essential in perfecting fruit; daylight in many cases does pretty well.

The failure to receive the sun's rays from its rising to its setting would not deter us one moment from the erection of a horticultural building. Those who grow fruit where all conditions are most favorable to success, do not enjoy the same pleasure nor attain the same skill as those who battle with difficulties; success easily acquired has not the same value as that success which is reached by persistent effort against adverse circumstances.

Unlike the garden of a country gentleman that blossoms and fruits and passes away in a season, the horticultural building properly heated is a perpetual pleasure, a garden the year round; vegetables and fruit and flowers follow each other without intermission.

Very much is due to the foresight and energy of Mr. Sherwood, in inaugurating the introduction of horticultural structures of this class in New York. Few gentlemen of wealth have had the same opportunity, and few less would have the courage to take the first bold step in this matter. It cannot, however, by horticulturists, be looked upon as an experiment, however much those inexperienced in such matters may be disposed to criticize.

We are sure that Mr. Sherwood has done something that will advance the cause of Horticulture, and equally sure that he will be successful in the result. We shall feel much interest in his progress.

THE INFLUENCE OF THE CENTRAL PARK UPON PUBLIC TASTE.

We have in the city of New York a Park embracing an area of eight hundred and forty-three acres, of which one hundred and seventy acres is water surface. This includes the two Croton Reservoirs, one of which is a beautiful artificial lake, covering more than a hundred acres,—smaller lakes, which are the winter skating ponds, ornamented basins and pools.

The natural surface of these grounds was so broken and varied that by the aid of artificial appliances,—grading, excavating and filling in—the most picturesque and charming effects have been produced. In this re-

spect we believe the Central Park is unsurpassed by any of the magnificent parks of the same size in Europe.

It is only seven years since this enterprise was undertaken. The Board of Commissioners was organized in May, 1857.

It is not our present purpose to array the statistics of the Central Park, or to enter into the interesting details of the progress and management of the Commission, by which such beautiful and complete results have been attained. Such details would be undoubtedly, matters of great interest, to all who are concerned with the progress of ru-

ral art and embellishment, and with various departments of natural science, which must be embraced sooner or later in the plans of the Commission. We propose to avail ourselves of some future occasion and of the information and materials which have been kindly proffered, to lay before our readers a sketch of the history, development and results attained. It is enough for our present purpose to say in a general way, that the improvements have been designed with exquisite taste, and carried out with a thoroughness which is rarely met with in such work in our country. The avenues, roads and walks, the bridges, the ornamental structures, both those in solid material and the more perishable rustic work,—are so nearly perfect in design and execution as to afford little opportunity for criticism. The planting has been done in so thorough a manner that very few trees or shrubs fail to grow with wonderful thrift. The grouping and massing, according to the most approved principles of park and landscape culture, may be regarded as completely successful, and the Park is already a marvel of beauty.

The point of view from which we choose now to regard this subject, is the influence which such an institution is likely to exert upon the culture of the public taste.

According to the last published Report of the Commissioners, from four to five million persons visit the Park every year. These persons are of all conditions of life and from all parts of the country, and of course of all grades of education and culture. Every one who visits the city, for purposes of business or pleasure, avails himself of the opportunity to explore the Park. He finds here the most substantial and elegant structures and the highest condition of cultivation and keeping. The laying out of the grounds, the planting, the variety of trees, plants and shrubs, the treatment of the landscape, the picturesque features of the surface, the intermingling of rock and water and green turf, of evergreen and deciduous trees, of trailing vines and low-growing plants,—all these arrest attention, and create a degree of interest in the whole subject of rural art, such as the visitor had,

probably, never before experienced. He possesses a real love of nature and an admiration of the varied forms of beauty. But this sentiment has not yet been developed into a pure taste, for want of opportunities and means of culture. Here he finds examples of correct taste. If he owns a country place which he wishes to improve, he will carry away from the Park some information which will be available in laying out his own grounds. He will learn here, without effort or study, how to construct his roads and walks, how to lay down his lawns, how to plant his trees, so as to avoid stiffness and formality, how to arrange his shrubbery and flowers in such way as to secure the best effects. Of course all this will not come of a single visit to a single park. A correct taste is not so easily cultivated. There needs be an observation and study of many good models as well as the perusal of good books which treat of the principles of taste and of landscape construction and adornment. But every visit to the Central Park will assist in the formation of taste. The thoughtful man who really loves nature, will gather hints and suggestions on every side, as he rides or walks, or reposes in the refreshing shade, and he will go home to put these suggestions into practice, on a limited scale, indeed, and with fewer appliances of wealth and artistic skill. And so, on the principle of imitation and emulation, a taste for rural improvement will extend, the pleasant infection will spread from neighbor to neighbor, and the whole country will feel the impulse which the high culture of the Central Park has given to rural improvements.

There is no exaggeration in this statement. The whole history of rural affairs in this country for the last twenty years, shows the action of this principle of imitation. Good models in architecture,—in any art,—must improve the public taste, and the more good models are multiplied for the imitation of the public, the more rapid will be improvement in refinement and culture. There is wealth enough among the people, and public spirit enough, if we can keep the impulses to progress and improvement suffi-

ciently active. Who can doubt the influence of the Central Park in supplying these impulses and in furnishing these facilities?

The chief occupation of our people is the cultivation of the soil, and the products of the field and garden and forest form the great volume of our exports and the basis of our internal commerce and industry. Horticulture is already an important interest among us, and becoming more so every year as our cities increase in population and the demands for the products of the garden are multiplied. Improved methods for the production of fruit, vegetables and flowers, while they increase the supply, barely enable the producer to keep pace with the increased demand. There is a ready market to-day in any of our cities, for hot-house fruits, at prices which would have astonished our most extravagant predecessors, grapes and peaches, nectarines and apricots, together with a large variety of culinary vegetables, all of which have been forced under glass for our early markets, are daily found upon our tables, while in the one item of cut flowers, as we have shown in our late numbers, the

citizens of New York expend thousands of dollars every year.

Certainly we do not expect the Central Park to furnish us examples of this sort of culture for the supply of our table luxuries. But we are sure that the best and most approved methods in horticulture, landscape gardening, etc., which are there exhibited, will not only supply us with practical and available knowledge on these subjects, but will largely cultivate the public taste for these elegant and wholesome pursuits, and stimulate to a healthful competition. Country life is the perfection of living to the happy man who knows how to live in the country, who has the taste and the knowledge requisite to the enjoyments placed within the reach even of the man of moderate means. The influence of the Central Park upon the mind and taste of the millions who annually visit its refreshing shades, and wander by its beautiful waters and through its charming walks, filling their minds full of images and thoughts which will revisit them again in visions of beauty, must, assuredly be a wholesome and happy influence upon the public taste,

NEW WHITE NECTARINE.

It is much to be regretted, that the Nectarine has been almost discarded from cultivation in the open air, from its great liability to attack from the curculio, and can-

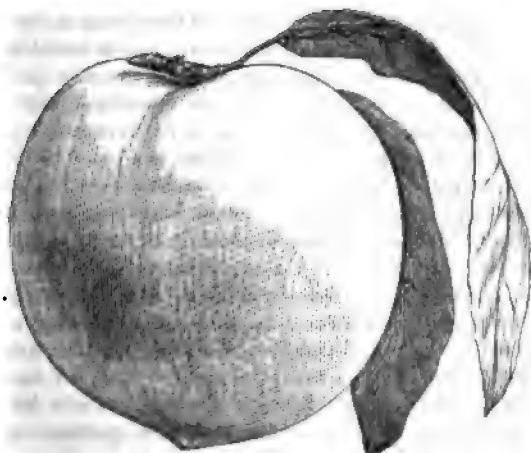


Fig. 1.—New White Nectarine.

only be grown in perfection under glass, where it succeeds even better than the peach.

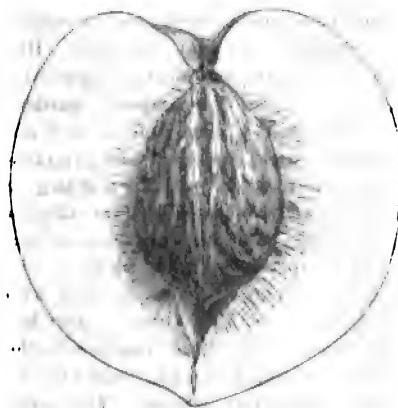


Fig. 2.—Section.

The specimen from which our cut was made was handed to us by Isaac Pullen, Esq., of Hightstown, N. J., grown in his orchard house. Though not of late introduction, it is but little known. We commend it to all who have orchard houses as one of the best of the nectarines, both in quality and appearance. We give Downing's description:

The New White is the finest light-skinned variety, and is a beautiful hardy and excellent nectarine, bearing abundant crops. It is an English seedling, raised by the Rev. Mr. Neate, near London.

Leaves with reniform glands; fruit rather large, nearly round; skin white, with occasionally a slight tinge of red when exposed; flesh white, tender, very juicy with a rich, vinous flavor. The stone is small. ripens early in September; flowers large.

ECCLESIASTICAL ARCHITECTURE.

THE subject of Church Architecture is of peculiar interest and importance, not only because of its connection with the general principles of art and taste, and with the whole matter of public embellishment, but especially as it is inseparably connected with the rites and ceremonies of the Christian Church. It is the duty, therefore, of every person who has anything to do in the erection of edifices for public worship, to make himself, at least, so far acquainted with the general principles of Ecclesiastical Architecture, that his influence and exertions may be directed judiciously, and in accordance with correct taste, so that in the arrangement of a structure designed for sacred purposes, due attention may be paid to its being properly adapted to the celebration of the solemn services of religion.

A thoughtful mind, indeed, must be sensible of a feeling of melancholy at the contrast generally exhibited by the comparison of most of our modern churches with the stately piles erected in the middle ages. In defiance of all the barbarous mutilations and additions to which many of these structures have been subjected from time to time, they still retain a holy and venerable

character—they are still permanent and impressive monuments, bearing testimony to the genius and piety of those who built them.

Undoubtedly the motives and not the actions of men should always be regarded, and so even the sumptuous and lofty cathedral may not be a more acceptable offering of piety than the plain and lowly church, provided its poverty is the result of limited means, and not of sordid and selfish economy. There are men, perhaps, who would persuade themselves that the meanness so visible in the structures with which they are concerned, is a proof of their superiority to the superstitious notions which they falsely attribute to the ancient builders, for having devoted much time and labor on what they are pleased to call useless and unnecessary ornament. But this is a mistaken view of the subject, and we hope and trust the time is not very far distant when the importance of church building will be duly appreciated by the public. There have already been important and significant movements in this direction, in various parts of the country, within the last twenty or thirty years, but we believe there is room for greater im-

provement, and it shall be our purpose to do what we can, consistently with our position, to facilitate this improvement.

In former times the buildings set apart for religious purposes were generally erected from the drawings and under the immediate superintendence of the Ecclesiastics themselves, who sometimes even worked as common laborers for the love they bore the sacred enterprise. They seem to have been anxious that the effect of their edifices should contribute to increase the solemnity of the services for which they were erected, for they were aware, as is said by Hooker, that "the very majesty and holiness of the place where God is worshipped, hath in regard of us great virtue, force and efficacy, for that it serveth as a sensible help to stir up devotion, and in that respect, no doubt, bettereth even our holiest and best actions in this kind."

It is vain, we think, to expect that our sacred buildings can exhibit the same propriety and beauty, unless they are designed in strict accordance with the spirit and intentions of the services to which they are appropriated. Many of our modern places of worship, in consequence of their capricious and inartistic arrangements, are destitute of almost every peculiar characteristic of a house of prayer. Instead of possessing within that calm, quiet and impressive aspect which tends to inspire feelings of reverence and devotion in all who enter their sacred walls, the whole structure has an air of meanness and pretension that is particularly offensive, and at the same time altogether opposed to every sound principle of Ecclesiastical Architecture. The whole atmosphere is secular, and the whole influence irreverential.

On the other hand, the appearance of the old churches of the mother land is often magnificent and imposing; but even when of a plain and simple description, it is impressive and beautiful. There is a spirit in their venerable walls, and a reality about their structure and appointments, that is always gratifying and satisfactory; for however rude may be the materials employed in their construction, there is never any at-

tempt to make them appear other than they really are. The faithful builders, conscious of having exerted themselves to their utmost ability, seem to have felt that any false pretensions would be at variance with the holy character of the service to which the edifice was to be consecrated; and that alone, in their estimation, would invest it with sufficient majesty.

The solidity, also observable in the construction of the religious edifices of the olden time, harmonizes admirably with the purposes for which they were erected; appearing, as it were, to intimate that

"They dreamt not of a perishable house,
Who thus could build."

The irregularity of medieval buildings, united, as it frequently is, with much apparent complexity, is apt to make a mere superficial observer imagine that such designs are not the result of that consideration and forethought exhibited in the works of classical antiquity. But this conclusion is very far from being correct. For although "Gothic Architecture adopted forms and laws which are the reverse of the ancient ones, it introduced new principles as fixed and true—as full of unity and harmony as those of the previous system." And it will be found that a long course of the most attentive and reverential study is requisite in order to be able to imitate with any correctness the stately and magnificent edifices that were erected during the middle ages.

The poet Coleridge has well observed—"The Greeks reared a structure; which, in its parts, and as a whole, filled the mind with the calm and elevated impression of perfect beauty and symmetrical proportion. The moderns also produced a whole—a more striking whole; but it was by blending materials and fusing the parts together."

In the lofty and vast cathedral churches Christian Architecture reigns supreme. In these immense and glorious works our ancestors never spared any expense or labor for their perfection; deeming rightly enough, that their utmost efforts in the performance

of such honorable works must fall short —we mean such as really deserves the name—have generally been occasioned by the desire of producing something fine or novel. How often, in a secluded village, where a simple, unpretending edifice would have added grace and interest to the landscape, and to the general surroundings, do we find some incongruous pile erected, which in no respect harmonizes with the neighboring scenery.

The great charm, indeed, of all the ancient churches, consists in their possessing a solemn and devotional character, which at once distinguishes them from every other class of buildings, so that, notwithstanding the different styles and variety of their architecture, they have a certain similarity of appearance, which marks in a very significant and expressive manner, that they are alike dedicated to the same sacred purpose.

These venerable structures, on account of the many sacred and interesting associations connected with them, as well as on account of their beauty and perfect adaptation to the purposes of public worship and instruction, are the best and most appropriate models for similar structures now. And to acquire a correct knowledge of the elements of design in church architecture, and to bring about that “union of genius with imitation,” whose productions shall be worthy of being compared with these models, it is indispensably necessary that these beautiful monuments of medieval art should be studied with the greatest care.

But in designing a church, it is by no means sufficient that we borrow the details of an old building, unless we likewise preserve its general proportions and distribution of parts, upon which its characteristic effects are chiefly dependent. In the selection of any particular style, or period of the pointed architecture, it is also of great importance that both the size of the intended structure, and the locality where it is proposed to be reared, should be taken into consideration. Such considerations are often entirely disregarded. But the most glaring defects in modern church-building

It either bears no resemblance whatever to the “shrines of ancient faith,” or is a tame, mean and meagre combination on a small scale, and with inferior material, of the various features of the grand and magnificent cathedrals which were built for very different uses, though for the same general purposes. These fabrics, from their immense size and peculiar arrangement, are in no wise fit and appropriate models for parish churches. Yet they must be thoroughly studied and comprehended in all their wonderful details by any one who would make himself competent to the task of designing even the plainer structures which are needed for our country villages and larger towns.

With the hope of returning to this subject in our future issues, we shall close this paper with some extracts which will be found both instructive and suggestive.

“The contemplation of the works of antique art excites a feeling of elevated beauty and exalted notions of the human self; but the Gothic Architecture impresses the beholder with a sense of self-annihilation,—he becomes, as it were, a part of the work contemplated. An endless complexity and variety are united into one whole, the plan of which is not distinct from the execution. A Gothic Cathedral is the petrification of our religion.”—*Coleridge.*

“If the science of our ancestors had not been directed and animated by pure taste, high feeling, and strong religious enthusiasm, they would not have handed down to us a series of monuments, extending nearly over the whole of Europe, which will be viewed with admiration for ages. It was a noble idea to dedicate to the service of the Infinite Creator a temple, apparently indefi-

nite in its extent, through which the eye it is good for a man to live in posthumous might range without discovering the limit renown. But come to the mean and petty or measure; and the skill with which this reconstruction of the interior of our parochial churches, which have been effected in the best days of classical art."—*Petit's Remarks on Church Architecture.*

"It has been observed as a circumstance full of meaning, that no man knows the names of the architects of our cathedrals. They left no record of their names upon the fabrics, as if they would have nothing there that could suggest any other idea than the glory of that God to whom the edifices were devoted for perpetual and solemn worship; nothing to mingle a meaner association with the profound sense of His presence; or, as if, in the joy of having built Him a house, there was no want left unfulfilled, no room for the question whether

BEURRE GIFFARD PEAR.

We do not illustrate this as a new pear, but in order to call the attention of Amateurs to it, as one of the very best pears of its season. If picked just at the right time and house ripened, it is not surpassed by any of the early pears. We have fruited it now for three seasons and can testify to its uniform excellence.

Tree a straggling grower, requires much and careful pruning to bring it into a proper shape. Shoots of a peculiar reddish color. Fruit buds long pointed. Ripens 10th Aug.

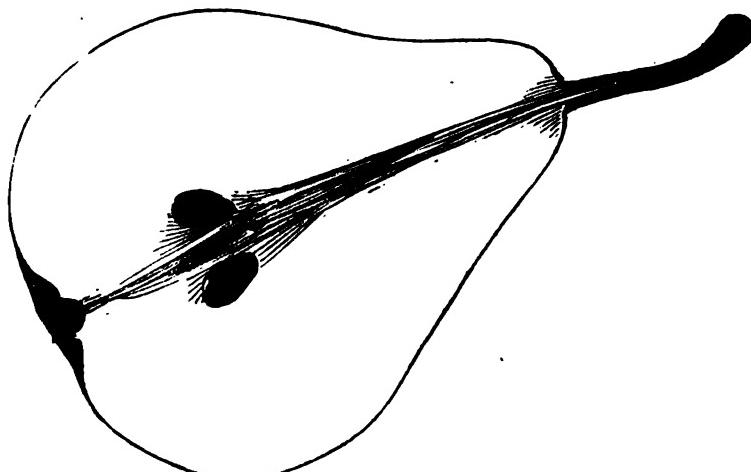


Fig. 1.—Section—Beurre Giffard Pear.



Fig. 2.—Beurre Giffard Pear.

GRAPE GROWING AT NAUVOO.—A parcel of land, consisting of 120 acres, lying on the north side of Nauvoo, was sold a few weeks ago at auction, in one, two, and three acre lots, for vineyard purposes, at rates averaging from \$75 to \$100 per acre. The grape-growers of Nauvoo have realized, from their past year's crop, wine, to the value of \$70,000. A number of grape-growers in Nauvoo, who, five years ago, had no income except what their daily labor gave them, now have stated incomes from their grape crops, averaging from \$1,500 to \$4,000 a year. It is said not to exceed \$125 per acre to trench and plant an acre of ground with grapes, and the third year's growth is usually good for 400 gallons of wine worth \$600.—*Ex.*

STRAWBERRY SHOW ON THE HUDSON, AT POUGHKEEPSIE.

BY W. A.

SOME weeks since, the members of the Horticultural Club in this city resolved to have an exhibition of Strawberries in June. Last week they carried their commendable purpose into execution. They exhibited what they proposed—Strawberries in all their variety of size, taste, color and quality. Competent judges pronounced it a rare show of this delicious fruit, and the members of the Club are satisfied they have done something for the strawberry cause, and gratified an honorable desire to make a successful and handsome show. Certainly, it would be difficult to surpass the kind and quality of fruit exhibited last week in Poughkeepsie. Yet, it must in truth be said, the specimens were inferior to former years, for the crop itself in this region in quantity, if not in quality, has been wholly behind last season. The drought early affected it and limited the crop largely.

It was resolved by the Club to open the Show of Strawberries in their Hall in the afternoon to the public, and in the evening to have a reunion of the members with their friends. People might look at the delicious, tempting fruit during the day, but at night the "tasting committee" should be enlarged, to induce all the members, and those they should invite, to join in this fascinating pastime. To the Strawberries, it was promised *Cream* should be added, and nothing more need be said.

Nearly every variety of Strawberry now cultivated was found upon the tables. Not far from a hundred plates blushed with this delicious fruit. Some high-piled and gushing over, and others with a few choice berries of such magnitude as to excite credulity, but of such delicious flavor as to draw forth from refined tastes and lady lips, ejaculations both extravagant and delightful. The favorite seemed to be the "Triomphe de Gand," both for its immense berry, its delicious flavor and its generous productiveness. No premiums were offered, but a pudiated. Size has been reached, but want

Committee decided that the best specimens exhibited were the "Triomphe de Gand," Wilson's, Russell's, Downer's Prolific and the "Shaker Seedling." Mr. Marshall, an intelligent, enterprising Nurseryman and fruit-grower, exhibited many new specimens. Among them the Committee found the following:

LA CONSTANCE—sweet, but not high flavored, good size.

LADY FINGER—a favorite berry in the Philadelphia market, first quality, sweet firm flesh, large size, thimble shaped.

MARGUERITE—solid pulp, not high flavored.

CUTTER'S SEEDLING—medium size, sweet, good flavor.

DOWNER'S SEEDLING—a fair sized berry and good flavor, light color and soft flesh.

JENNY LIND—sweet, excellent quality, early, medium size.

MADAME LOUISE—hardly ripe, flavor quite distinct and peculiar, partly white in color.

DETURRY—fine quality, superior flavor.

It will be seen by the above, that but few of the old fashioned strawberries find favor in this region. Many of them, like the Early Scarlet, Burr's New Pine, Black Prince, Hovey's Seedling, and others, once so popular, were exhibited, but the "Triomphe," the Wilson and the Russell seemed to have largely banished them from public favor. That Strawberry which will combine size, flavor and productiveness, is the one people want; and when found, all others must retire before it with intelligent cultivators. Those named above seem to combine largely the desired qualities, and yet perfection has not been reached. Every year new seedlings are brought out, and before long, the small, tasteless, and inferior berries, that even now are cultivated extensively, will be thrown aside and forever rejected.

of entire sweetness may be urged even now against the best class of strawberries.

The afternoon was enjoyed by the public who visited the Exhibition, but the evening culminated in a crowd of professional and amateur growers of this delicious fruit, and their lady friends. It is almost unnecessary to remark, that while the gentlemen were gathering their most choice and delicious berries for the show, the ladies, with their refined and elegant tastes, were culti-

Show of Strawberries was a success beyond expectation, while the floral exhibition was elegant as it was attractive and beautiful. The Show having been fully examined and discussed, the President, (a gentlemanly bachelor,) announced that the "forbidden fruit" was no longer proscribed—it would now be offered to the company. Very soon huge piles of delicious strawberries were circulating among the guests, and it is almost needless to say, the welcome ice-cream followed in abundance in close proximity. Thus this beautiful show was made tributary to an elegant taste and a refined parties were eminently successful. The hospitality. May it be imitated everywhere.

THE USE OF ORNAMENTS IN LANDSCAPE GARDENING.—NO. I.

IT is a trite saying, although perhaps not so strictly true, "that beauty unadorned is most adorned." This may hold good to a certain extent in the instance of the most perfect of all Nature's beautiful works, a beautiful woman, but we are not willing to admit that even in this case, beauty may not be enhanced and set off (so to speak) by the use of chaste and proper ornament—so in other works of beauty; a fine painting for instance, not only loses nothing by the surroundings of an appropriate frame, but is often rendered the more conspicuous and appreciable.

The use of ornament in the Fine Arts, and especially in the Art of Landscape Gardening, which we class among the Fine Arts, is not only defensible, but is practised with great success, and the highest skill is evidenced in the judicious use and management thereof. The trouble is, however, that this is a matter so liable to abuse, and in the which so little judgment and skill is manifested, that we are disposed to cry out with each failure, "Away with your ornament." The most distinguished beauty, may be so overlaid with ornament, or the adornment may be of a kind so meretricious and vulgar as to rob the object of all its pleasing effects. Thus, to go back to our type, what is more repugnant to our appreciation, than the exhibition of a beautiful woman, dressed out in glaring, gaudy colours, without an idea

of what is called taste, and blazoned with jewelry? The old saying here holds good with emphasis; her beauty would be far better off unadorned; but take the same one, and let her be decked according to the aesthetics of dress, with a moderate show of ornament all in good taste, and her beauty will be of the striking and dazzling order: the *tout ensemble* is perfect. Thus in Landscape Gardening, it is a very common and yet a sad sight, to see some of the most beautiful spots, where nature has given large scope to the artist, completely ruined by a display of vulgar, bad taste; nothing studied but how to crowd the place with ornament without the slightest regard to principles of art: statuary crowded in with ludicrous incongruity of subject and fitness; classical vases mingled in with Chinese structures, rustic with finished work; all sorts of styles mingled in meaningless companionship. And this is only one of the many blunders made in this regard. The first great principle to study in this work is "Unity of expression," that is to say, that all the details of the work should be in such relation to each other as to produce a harmony in the whole; and unless this effect is produced, the labor is in vain, the effect is bad, and is felt even by those who are unable to point out where the deficiency exists.

Another principle and a very important one, is that, in introducing ornaments, the

greatest care should be observed not to display them to such degree as that they should cease to be subservient to the scene; for then they lose this characteristic, and by attracting an undue attention, become themselves the principal.

The proprietor has a more difficult task in the disposition of his ornaments than the disinterested spectator can readily appreciate. The latter judges only of the general effect in viewing the whole, not knowing what interest the proprietor may take in each separate article of ornament; they may have been purchased from time to time by the proprietor with strong impressions of their fitness, and with a special attachment to each one. He displays them with a kind of parental pride, they are his pets, and no

matter what incongruity there may exist among them, he sees them only with the eye of a parent, and with him they are all beautiful, all in place. The stranger knows nothing of this, and if his taste be instructed he views the whole with the cold eye of criticism. It is best then for the proprietor to construct or procure his objects of adornment only as he may require them, and as he may study out the picture slowly and with judgment with the enquiry, first, is the ornament needed? and secondly, is it fit or appropriate? will it enhance or belittle the scene? He will in this way be less likely to fall into vulgar blunders, and will not only save his money but what is often of more consequence than money—disappointment and mortified pride.

THE DELAWARE AND ADIRONDAC GRAPES.

BY F. C. BREHM, WATERLOO, N. Y.

It is with surprise that I see the premium for the best Native Grape, "quality to Rule," has been given to the Adirondac, when the best of our native grapes, the "Delaware," was competing for that prize; and how a committee of impartial judges, who profess to understand fruit, could make such an award, and do it impartially, is to me, and undoubtedly to a great many of the readers of the *HORTICULTURIST*, a mystery, especially to those who have both kinds. I hope the judges who made the award will publish in the *HORTICULTURIST*, or some Horticultural journal, the points on which they made the award; whether it was size, color, or whatever it might be; it certainly could not be quality or flavor; for while the Delaware possesses all the good qualities that can be concentrated in a grape, as a rich, pure, sugary, vinous flavor, full of briskness and life, we see the Adirondac, although a larger grape in point of size of berry, than the Delaware, yet lacks that pure rich, refreshing flavor which the Delaware possesses, and can no more be compared to the Delaware than a Crab Apple to a Baldwin. Now let us take a look at the two Grapes, in point of hardness, growth, healthiness and productiveness.

Let us examine the Delaware first, as to growth. No grape that I am acquainted with, or have heard of, has been so many times propagated over and over again from non-bearing wood, or wood taken from single eyes, and propagated over again and again, thereby destroying the constitution of such vines. Such are the difficulties the Delaware has had to contend with during its dissemination. Vines that were propagated under such circumstances will make a slow growth at first, and will, if well attended to, ultimately recover and make a good growth. But take the Delaware propagated from bearing wood, or good layers, and it will, with any decent management, make as good a growth of wood as any reasonable man can desire. Excessive growth is a detriment instead of a benefit. It ripens its wood perfectly, and is frost-proof against our cold winters. In point of healthiness, it is free from disease when others lose their foliage and drop their fruit. Its healthiness was more apparent this season. When mildew and rot reigned supreme, the Delaware ripened its fruit without the loss of a berry by rot or a leaf by mildew, and ripened September 15th. In productiveness, I do not think it can be

beaten. As an illustration of the productiveness of my Delawares, I would state: that a vine three years old produced on a cane five feet in length, and grown last year and fruited this year, 43 clusters of fine grapes which quickly sold for 30 cents per pound on the spot.

Now let us look at the Adirondac, grown on the same trellis, with the same care as the Delawares received. In point of growth it is a rampant grower, growing too strong to be easily managed. In point of hardiness I do not think it is quite as hardy as the Delaware. I judge so from the firmness of the wood, not having exposed it during the winter, being afraid it would winter kill. In point of healthiness it lost

nearly all its foliage by mildew to such an extent that the fruit, although colored, remained hard, pulpy, and flavorless, and was not ripe on 1st October, when all my other grapes had been gathered.

These are facts, and I should not have made them public, but for the persistent efforts to gull the people by interested parties. The Adirondac may be a good grape where it can be grown without losing all its foliage; but with me it mildewed more than any other variety, although cultivating some 25 kinds; and to represent that it is earlier, better in quality, and healthier than the noble Delaware, is a simple falsehood.

Waterloo, Nov. 1863.

STONE FENCES.

BY S. T. D.

LIVING in a part of the country well supplied with stone, much of which is suitable, with proper labor and care in selection and construction, for fencing purposes, I am led to inquire why is it that so many persons prefer wooden palings and fancy lattice-work to the permanent walls which might be built at equal or less expense, out of the abundant material which is at hand, and often in the way?

One of our neighbors, a worthy and wealthy gentleman from the city, is the possessor and occupant, during the summer, of one of the most desirable and valuable country seats in the vicinity. It is a large farm, with a broad and beautiful lawn, containing fine old trees and abundance of shrubbery in front of the house. The house is itself elegant and complete in all its appointments, while the barns, stables, and other out-buildings are properly placed and screened from observation by ample plantations. It is really what would be called a "first-class country seat."

This lawn was originally separated from the public road by a wooden paling, five hundred yards, perhaps, in length, with two gates opening upon the broad gravel avenue which sweeps up, with graceful curves, to the entrance porch.

This fence having become dilapidated,

the proprietor found it necessary, during the last season, to replace it with a new structure. Instead of using the stone, which could have been procured in the immediate neighborhood, and probably on the estate, in building a low, solid and permanent wall, he constructed an expensive wooden fence, of a somewhat elaborate pattern. The posts are cased with panel work and surmounted with caps, while the spaces between are filled with a somewhat intricate tracery, and the whole painted of a very satisfactory neutral color, relieved on the splays and projections with a darker tone.

Now, I do not wish to find fault with the design of this fence—perhaps, however, it is a carpenter's rather than an artistic piece of work—but I would be pleased if you would allow me to protest against the taste which would build such a fence when one so very decidedly better and more beautiful to a cultivated eye, could have been put in its place. The consideration of cost was of no consequence in this case, or if it were, the fancy wooden fence was more expensive than the plain, solid stone-wall. It was a mere exercise of taste, as it is called. The stone wall is common along all our roads, and around all our farms. Indeed it is almost the only kind of fence in our neigh-

borhood, except the enclosures of a few of our smaller places and "door yards." My good friend had a taste of his own, and he could afford to indulge it. It runs to posts and rails and painted tracery—a taste that needs correction. It is impudent and offensive. What is real and appropriate is always in good taste. Wooden fences, in a country that furnishes no stone for such uses, must be endured until live hedges can be substituted. But they should be endured no longer. Even carpenters' work and paint cannot redeem from the condemnation which good taste pronounces; on the contrary, the more elaborate they are made by such appliances, the worse they are. There is nothing of the kind more annoying to an eye that can see the real fitness of things, and the proper adaptations of materials and forms, than as we pass along our highways, through the beautiful country, among the grand old trees, all of which speak to you audibly of permanence and growth,—to find the fences

which separate you from the spreading lawns and the green fields, miserable, thin, rickety wooden constructions. And the more pretentious they are in workmanship and ornament, the more objectionable.

A low, solid, substantial stone wall, where the material is abundant, is in excellent taste. The natural color of the stone makes it unobtrusive, and its tone harmonizes with the various surroundings. This can be covered, if one wishes it, with trailing vines, whose summer greenness and gorgeous autumn tints shall add beauty, by taking away from the bareness of the material and the hardness of horizontal lines.

The live fence is, without doubt, the most beautiful, and we are pleased to see a growing taste in this direction. But for the external fence, where the enclosure is of considerable extent, and the material at hand, we should almost always prefer the substantial stone wall, treated as we have just intimated.

THE FLOWER GARDEN—ITS PLEASURE AND RATIONAL AMUSEMENT.

BY C. N. BEMENT.

A TASTE for the pleasures and comforts of horticulture in a country has been justly considered as an indication of refinement in the people, and its excellent moral effect has been acknowledged in every instance where it has taken place. If effects so desirable can be produced by a taste for the pleasures of horticulture, who can deny its importance or withhold from it his approbation and patronage?

We know of no association more constantly present to the mind, or one more pleasing, than that which connects woman with flowers; and rarely indeed does the girl appear more charming or engaged in an occupation more suited to her taste, than when she is surrounded by the latter, by persons that have been trained and cherished by her own fair hand.

The flower-garden from the remotest antiquity, has ever been considered a sacred place, where all the most chaste and refined feelings of the soul were stirred up, and

called forth into maturity and vigorous action. Here Nature displays her wonderful mystery—her rich and gorgeous tints—her brightest colors—her most balmy perfume. It was a place well calculated to attract the admiration of all the illustrious men and women, both of Greece and Rome. They dedicated such places to their deities, and celebrated various pious and festive rites and solemnities, which, no doubt, in their day and generation, did afford them the highest enjoyments. It was within these classic scenes that their elegant taste was displayed, their immortal poetry composed, and their literature cultivated to its perfection; and Nature in all her splendor, was often almost rivaled by the genius and ingenuity of her votaries. This pursuit has not only great antiquity, but the approbation of sages, poets, and saints, in its recommendation. Flora is its goddess. Hydra, who presides over health is her attendant, whilst Venus and Cupid are ever ready

to lend their aid and assistance. Therefore subject, and sing in admiration the "loves ye lovely belles, if you desire health, bright eyes, and rosy features, enter the garden of flowers, and exercise in a wholesome and innocent pleasure which will enliven your mind, enlarge your understanding, warm your heart, and mould your forms, so that you will be prepared to enjoy whatever destiny the God of Nature may determine.

In a climate like ours, where the morning and evening of spring, summer, and autumn are so well calculated to invite us to walk forth and survey the beauties of the field, or luxuriate the eye on the exquisite varieties of plants to which it is congenial, we cannot imagine any fancy more rational than to devote a small spot of ground or a few hours in the twenty-four, to the culture of flowers.

When we meet with a lady who has no taste, no feeling or admiration for such an elegant and refined pursuit, our mind involuntarily reverts to the character of Mistress Dame Van Winkle, of tigress memory. There are so many exquisite beings of such curious and complicated structure, so perfect in all their parts, that they proclaim in silence the incomprehensible wisdom of that Being whose sovereign will could alone create them. They spread out their charms, their tender flowers, that the sun may mature, and the dew increase their sweetness. They feel the air as it passes—to them it is Nature's priest. The glare of the sun witnesseth both their loves and their nuptials. Who hath a heart to love? here, child of Adam, mayest thou indulge the master passion: every flower is either male or female. Well may poets of all ages contemplate this

of flowers."

How the universal heart of man blesses flowers! They are wreathed around the cradle, the marriage altar, and the tomb. The Persian in the far East, delights in their perfume, and writes his love in nose-gays, while the Indian child in the far West, claps his hands with glee, as he gathers the abundant blossoms, the illuminated Scriptures of the prairies. The Cupid of the ancient Hindoo tipped his arrows with flowers; and orange flowers are a bridal crown with us, a nation of yesterday.

Flowers should deck the brow of the youthful bride, for they are, in themselves, a lovely type of marriage. They should twine around the tomb, for their perpetual renowned beauty is a symbol of the resurrection. They should rest on the altar, for their fragrance and their beauty ascend in their perpetual worship before the Most High.

Bright and beautiful flowers are welcome ever: welcome in days of prosperity or adversity; more welcome in adversity, for they are true, and true when all else is false. Welcome in sunshine, or in storm; most welcome in the hour when storms without shut from our gaze all that is bright and fair.

But there are times and seasons when there seems a beautiful and harmonious desire for the gift of flowers, when Nature as well as our own desires, and all attending circumstances, seem to turn the heart and mind to those offerings to the Deity.

Po'KEEPSIE, July, 1864.

MONUMENTS.—NO. IV.

BY A PARISH MINISTER.

WE present, this month, to the readers of the HORTICULTURIST, an engraving for a monument of larger size and cost than those previously given. It is designed to be placed in the centre, or at the entrance of a cemetery, as the sole monument of the family, the lot is appropriated. The scroll

across the shield upon the shaft—which is intended to be in bold relief.—should bear the family name. The remaining sides of the shaft, and the principal base, will afford sufficient space for the inscription of individual names and dates.

There is no necessity for crowding our

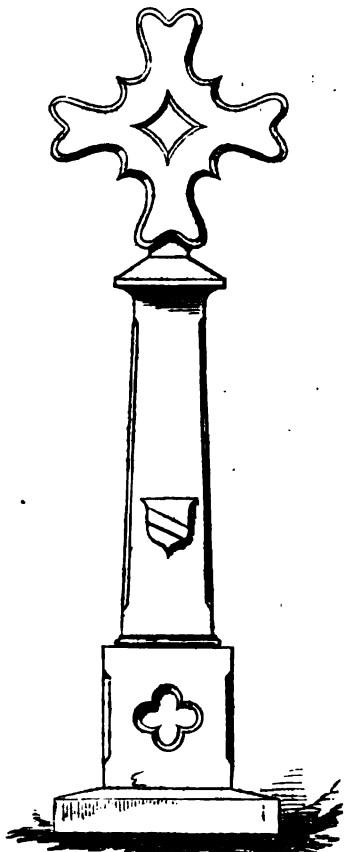
cemeteries with useless monumental structures, and covering over our family burial plots with marble, however appropriate the forms and symbolism may be. A simpler and purer taste would be satisfied with a single memorial which should fitly mark the spot where, side by side, parents and children shall await the summons to the resurrection. One appropriate and handsome monument—it may be as costly as a culti-

vated Christian taste and the means of the family may allow—would be better than several of inferior size and meaner material and execution. It is fit that persons of public worth and prominence should have their separate monuments which might tell all that may properly be told, of their individual history, and commemorate, as far as seemly, their virtues. But generally this multiplication of monuments and headstones is needless at least, and often absurd.

Not long ago it happened that we were officiating in a rural parish not far from this city. The Church was most appropriately built in the midst of *God's Acre*. The old church, now replaced by a more beautiful and convenient structure, was erected before the Revolution, and there, among venerable trees and rude head-stones, the fathers and children of several generations are sleeping. On one spot, appropriated to one of the principal families of the parish, we found the graves of five or six little children, who had died in their infancy. At the head of each of these the loving parents had erected head-stones. They were all of white marble—all of diminutive size, like the infant forms they commemorated—all of the same design and pattern—a low, square stone, upon which reposed a lamb.

Of course, this sameness was not pleasing; it would have been much better if the five or six head-stones could have been incorporated in one impressive memorial. As a question of taste there is no room for doubt.

The design we offer herewith, should be executed in pure white marble. It may be from seven and a half to ten feet in height, and if the execution of the work is entrusted to skillful and competent hands, we think it must be satisfactory.



ORCHARD CULTURE.

READ before the American Pomological Society, at its meeting in Boston, by John A. Warder, of Cincinnati, Ohio :

"After the trees have been well planted in their new home, it becomes an important question to decide what shall be the most

appropriate culture to bestow upon them. The practice of some would-be-orchardists, is that of no culture, which, with the usual neglect that accompanies such treatment, is certain to end in disappointment, from the loss of trees; for no matter how good the

selection may have been in the nursery, nor how thorough the preparation of the soil, nor how careful the planting, the young orchard will never develop its highest degree of perfection if left at this stage of its progress to take care of itself; if neglected now, it will go back, and prove a failure, as any one may have seen who has observed the thousands that are thus sacrificed annually in various parts of the country.

It being conceded that thorough culture is necessary for the proper development of the young trees, it may next be asked whether any other crop should be planted in the orchard.—The answer to this question will depend upon the condition of the soil as to fertility; if poor, it will not do to rob the trees, which constitutes the main crop, but it is seldom the case that such poor land is selected for an orchard; generally our soils are sufficiently fertile to admit of cropping, at least partially, between the trees, without injury to them. Most writers advise the planting of a hoed crop, and prohibit altogether the sowing of grains among the trees. This is not without reason, for the long period between seed time and harvest that the soil about the roots has to lie without the disturbance of the cultivator for the admission of air and moisture, causes it to become compact and dry, and the trees must suffer.

The partial culture with the spade immediately around the trees, which has been proposed as a substitute for thorough culture, is very seldom well done, nor to a sufficient extent, and is generally neglected entirely, so that the poor trees are not only robbed by the surrounding grain crop, but, worse than this, they are imprisoned in the hard soil, which is left after harvest in a condition unsuitable for plowing, and the droughts of summer continue to injure the trees. Such crops as require and admit of the occasional use of the plow and cultivator among them, enable the farmer to keep the soil loose and mellow among his trees; this is the reason such should be selected for planting in a young orchard; these are called hoed crops; some persons prefer those that are of a low growth, such as potatoes

and beans, others think that Indian corn is the very best crop, and suggest that the shade cast by it upon the ground about the trees, and the moisture attracted by the leaves, which often falls to the soil, more than compensates for the injury caused by the corn roots absorbing the moisture below.

Whether we plant any other crop or not, let it be distinctly understood, and constantly borne in mind, that the young trees must be cultivated; the soil must be constantly stirred, and kept clean, until the orchard has fairly got under way with a thrifty growth. This is best effected by continuing the culture some years, and, as men are often unwilling to work without an immediate return for their labor, the naked fallow among the trees will too often be neglected, but the partial crop between them is an incentive to giving the orchard just such attention in the way of cultivation, as it requires.

The length of time that this culture should be continued, will depend upon the condition of the trees, and the character of the soil and surface. The orchard should have assumed the most thrifty growth, before the cultivation is suspended, whether this may have required three years of culture or six; but on hilly lands, with a soil disposed to wash into gullies, we can not continue the plowing with impunity, but must use such alternation of crops as will obviate the necessity for constant open culture. This may be arranged by a rotation of clover with corn or potatoes; a valuable alternation it is, since this legume is itself almost a cultivator of the soil, rendering it loose and mellow, while at the same time the surface is clothed, and the soil is bound together by its roots; moreover this plant attracts much of its sustenances from the atmosphere through its abundant foliage, and the radicals sink deep into the subsoil in search of nutriment.

The clover may be sown at midsummer, after the last plowing of the corn, with or without rye, which last is only used for the sake of clothing the surface, and preventing the washing of the soil, and should be pastured by hogs the following season; let it by no means be harvested. After one year

the clover should be again plowed in; and the cultivation of the young orchard should be continued until the trees be well established, when the land may be again laid down to clover or clover and orchard grass, and be allowed to continue in this condition for an indefinite period, or until the plowing appears to be again required.

The above remarks, as to the treatment of the young orchard, apply to soils of average fertility. There are portions of the country where the growth of orchard trees is too rampant to permit an early productiveness of the trees; this early bearing is a great desideratum in a new country, and with an impatient orchardist; as a mere matter of financial calculation, it is also a question of some moment. As a general rule, the more thorough the culture of the young trees, the more rapidly they are developed to their full extent, the more satisfactory will be the ultimate result in large crops of fine fruit; while all plans that force the trees into a premature fruitage, must have a tendency to produce early decrepitude.

But the encouragement of wood growth must not be continued too long, since it is the antagonist of fruitage; it must be subdued and brought within certain limits to insure abundant crops, though it should never be altogether suspended, the growth

of the tree should continue with the production of fruit. In some soils it has been necessary to curb the excessive production of wood, by discontinuing the cultivation of the soil, and laying down with blue grass, which makes a close sod, and thus checks the growth of the trees, forcing them into a fruiting condition. Every orchardist must decide for himself, whether the orchard of large trees, capable of bearing larger crops at a later period of their existence, is to be preferred to that containing smaller trees bearing a crop within a few years from planting, and continuing to be productive for a considerable period, even though the trees should never attain the large size that is so much admired, nor continue to be productive so long as the other.

In our age and country, the *now*—the immediate return of profit from the investment, is the great desideratum with most of us, and many people will prefer to treat their orchards in such a manner as to insure early productiveness, trusting to the future for the supply of fruit for future years. On this account, we find that the early producing varieties are always inquired after and often preferred by orchardists, though the fruit be of inferior quality to that produced by trees of the varieties that are longer coming into bearing.

BIRDS AND INSECTS.

BY C. N. B.

THERE are various insects that always threaten the destruction of fruit and fruit-trees; and they seem to be increasing. They already render very uncertain many kinds of fruit. How shall they be kept at bay? We will answer. Their natural enemy is birds. Insects are food of birds. They are in every tree, shrub, plant, in every pool, swamp and soil. Everywhere they come into being in teeming millions. Many of them attack the fruit for food, or for nests, or their larvae. The means to prevent their doing evil is the birds. We should, therefore, encourage them to grow and multiply in all our fields and orchards. We should not alarm or destroy them. We should consider them the naturally commissioned sentinels of our fruit trees. We should regard them as natural ornaments and conservators of our orchards and gardens. We should feel that birds are a standing army—on picket duty—self-marshaled and trained to meet and overpower the invading armies of the insect world. The wanton or intentional destruction of a bird should be considered a public loss—a misdemeanor—and should be held an outrage upon Divine order and human interest. God provides a

THE PROPAGATION OF "BEDDING" GERANIUMS.

THAT "bedding" geraniums are invaluable for flower-garden decoration is proved by the large space which we now see them occupy, and by the great demand there is for novelties, and the endeavors to meet that demand; for we have every season one or more gems added to them. This will be ample apology for a few remarks on their propagation.

Fortunately their propagation and culture is very simple indeed; cuttings may be struck of nearly all the sorts the whole year round, from the 1st January to the 31st December; but they will strike with much less labor at some seasons than at others, and at none more easily than during the next two months, when cuttings can be obtained in abundance. At this season they root freely in the open border, without the aid of glass or hotbed, and with little or no shading. Thus the humblest amateur or cottager can root any quantity, which, when put in pots, boxes, or anything which will hold some soil, he may easily keep over winter in any room where they will not get frozen, and where they can get some light and a little air occasionally. Many of the sorts, especially the variegated ones, are difficult to strike under glass at this season, owing to the succulent nature of the cuttings. Even these kinds will now strike freely out of doors. Though they will do pretty well in any situation, still a south border is preferable, as they do best there, owing to the greater warmth of the soil.

Cuttings may be made of almost any size. Good-sized cuttings (cuttings with three or four joints) should be used when they can be had without injuring or disfiguring the plants, as they make good plants soonest; still, with new things, or any scarce sort, small cuttings (cuttings with two joints) may be used, and, if attended to in potting and shifting, will make good plants before the autumn. If the wood be ripe they may be propagated from single eyes, like Vines; but in this case a good bottom heat is necessary. I once put some eyes into some

pots the latter end of October, and placed them on the hot-water pipes in the Pine-pit; they soon put forth leaves and roots, and were then potted off and kept in heat the whole of the winter; they were shifted in spring, and were large plants by the middle of May.

It is advisable to commence putting in cuttings as soon as they can be had, especially of such sorts as are intended to be potted off singly when rooted, and to be grown to good-sized plants. By being early struck and potted off, the pots get well filled with roots before the autumn, and the plants can with great safety be kept in cold pits or frames, provided the frost is kept out.

For striking the cuttings either of the following methods may be adopted:

1st. Take out the common soil of the border to the depth of about four inches, about three feet wide, and as long as may be required to hold the quantity of cuttings intended to be put in. This space should then be filled with a compost of loam, leaf soil, or peat, and plenty of river or silver sand, which should be made pretty solid by pressing on it. Insert the cuttings in this soil about three inches apart, or a little more or less, according to the size of the cutting, and water gently with a fine rose.

If the weather be dull when the cuttings are put in, they will not require any shading; but if very bright hot weather should prevail, it will be advisable to stick some tree branches in front of them, so as to shade them partially, but not to obstruct the fall of the dew at night.

The only other attention they will require is a little watering when dry, and pinching off any flower-stems that may appear, and picking off decayed leaves. In about a month the whole will be rooted, when they should be taken up, and either potted off singly, or put into pans or boxes for the winter, to be afterwards potted off or planted out into temporary pits, where they can be protected from frost, and where they may remain until the season for planting out

arrives. In this manner many fine large plants are obtained, which, if carefully transplanted and well watered, make a good show at once.

2d. The following plan I like best, and is the one I adopt myself: The cuttings are put at once into pots and boxes, which are bedded or plunged in a south border. Here they will require the same attention in watering &c., as those put into the borders, until they are rooted, when they may be either potted off singly, or kept as they are until spring. For cuttings put in after the middle of August this is a better plan than putting them into the soil in the borders, and having them to take up and store away in pots or boxes; as, in the case of frost or bad weather, the pots or boxes, after the cuttings are rooted, can be put into a pit, frame, cold viney, or shed, or under temporary protection, and can be potted off on wet days, or other convenient times. By using plenty of sand in the compost for the cuttings, I have found Golden Chain, and all other kinds of variegated geraniums, root freely when put in pots or boxes, and plunged in a south border. I would not, however, advise cuttings of these kinds to be put in after the 1st September. When not done before that time it is better to lift the old plants before they are injured by the frost, and take cuttings from them in spring.

When it is desirable to get a number of good plants of any particular kind, it is an excellent plan to put the cuttings at once into thumb-pots, and plunge them in a south border. By sticking a few branches in front of them in bright weather, and by attending carefully to the watering, &c., they will soon form roots, and, if shifted immediately into larger pots, they will make good plants before the autumn. Good sized cuttings, put into thumb-pots the beginning of September, will require no shading, and very little watering, and will not flag much unless the weather be more than usually bright at that season, but the heavy dews at night will prevent the cuttings from suffering; and as the leaves nearly all remain healthy, roots are soon protruded from the base of the cuttings. By shifting at

once into large pots fine plants are obtained. I have found cuttings of Scarlet, put in as late as the third week in September, make large plants, treated in this way. I have seen no method of striking "bedding" geraniums at this season better than those above detailed, and they are so inexpensive and simple as to be within the means of the humblest amateur gardener. Plants struck in the open air, and well established, are kept easier during the winter than those struck under glass. If kept tolerably dry, and by giving them plenty of air whenever the weather admits, they may be safely wintered in a pit or frame if they are properly covered in frosty weather. I do not, however, recommend a low temperature for them; quite the contrary. When it can conveniently be had, I prefer—and I recommend—the whole stock of "bedding" geraniums to be kept in a nice healthy dry atmosphere, where the night temperature is rarely below 45 deg.; indeed, for Mrs. Pollock, Sunset, Golden Chain, and many of the other more delicate sorts, I believe this is indispensably necessary, if we wish to have fine healthy plants; and, unless this class of plants are healthy and good, it is better not to attempt to grow them at all. By keeping the variegated ones, particularly the new kinds which it may be desirable to increase, growing through the winter, a stock of good cuttings can be obtained early in spring, which, if put into sandy soil, and giving them a little bottom heat, will soon root, and, by shifting and attention in watering, &c., they will make good plants by the middle of May.

It is rarely that all the old plants of Scarlet are lifted in the autumn, consequently a great number of cuttings can be had before destroyed by the frost. As it is a pity to waste what may be useful, these should be put into pots or boxes, using rather sandy soil; and, if kept dry, they will root either on the shelves or floor of a cold viney or greenhouse, or on the pipes or shelves in the pine-stove. In either case the great danger to be apprehended is from moisture. I have seen quantities of such cuttings rooted and kept alive by cottagers

in their windows. As there is no other putting in cuttings pass by, until we are class of "bedding" plants which give so much brilliancy and effect to our garden, and that for so long a time, we must not let a single opportunity we have of getting and

Florist & Pomologist.

M. SAUL.

Stourton, Eng.

EDITOR'S TABLE.

TO CONTRIBUTORS AND OTHERS.—Address all Communications for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, N. Y.

HORTICULTURAL ASSOCIATION OF THE AMERICAN INSTITUTE!—How preposterous! It may be very natural to inquire what New York should have to do with Horticulture, except to consume its products and pay our country cousins the highest prices for their fruits, and flowers, and vegetables? Where in all its paved streets, crowded avenues, and seven by nine yards, or its vacant lots worth a dollar per square inch, can the citizen find room, saying nothing of time, to cultivate a tomato or a strawberry? Well might the French Emperor say to his brother of Austria, when the latter compared the two capital cities of their respective countries, intimating that one covered as much ground as the other, "But we don't grow corn in Paris." Neither do we cultivate the cereals in New York, which, as a city, is neither an Agricultural or Horticultural district. But let us inquire if a Horticultural Society may not be tolerated here? needed even? and whether its patrons may not be more numerous than in the rural districts? With constant additions from the country, and the well known taste of our old citizens, one might feel surprised, that of its million inhabitants, none had ever before supposed that we might, could, should and would, have our own Horticultural Society, well sustained, and one that should become a flourishing institution, respected at home and abroad? Have we not beautiful shade and ornamental trees, to say nothing of the Central Park, destined one day in the future, to be the pride and boast, not only of every New Yorker, but of every American? Have we not our

conservatories, green houses, and grape houses? our flower borders, vine arbors, our rears and areas ornamented with green, our parlor-window gardens, our little nooks and corners ornamented with shrubs and plants of almost every kind, and nature?

In one of our rambles into the purlieus of Upper-ten-dom, we discovered a new feature in the construction of houses, with all the modern conveniences. This was a building under glass, in which were planted and cultivated the choicest foreign-grapes, included in the builder's contract. We were also attracted by the numerous climbing roses, Wistarias and other flowers, plants which we deemed necessary appendages to almost every dwelling. We see much to admire in the older parts of our city. On our way to our business we often wander out of the way (no, not out of *our way*,) to enjoy the flowers, at the corner of Fifth Avenue and — Street, or the Magnolia in its season, on the corner of Eighth Street, or the flowing Ailanthus, at Tenth Street, (that much abused and despised tree, with its unfragrant odor, but gorgeous flowers when grown in full sunlight,) or in the month of May, to Jefferson Market, to see the splendid Horse-chestnut in flower, surpassing Solomon in all his glory.

A pleasant memory of a dear friend, late President of the Merchants' Bank, is connected with Mr. Palmer's Wistaria in Fourth street, which he kindly allowed every one to visit in its flowering season. And an agreeable recollection of an old merchant is associated with the flowers and shrubs which were to be seen every day of the

year in the grounds and windows of the premiums for the best fruits, vegetables, late Mr. Pariah in Fourth Avenue. The city is full of such benefactors, of those who love beauty in all its forms, who appreciate the beautiful in art and nature.

Ask the florists, the gardeners, the seedsman who support their enterprizes, and the reply is, the denizens of the city; they buy the costly and rare plants brought here from every clime, they purchase every year cut-flowers to the value of half a million of dollars, they pay the highest prices for choice fruits and vegetables, foreign and domestic. If, then, the citizens consume these luxuries—necessaries of refinement rather—may we not believe that material enough can be found in our city to constitute and maintain respectably an independent Horticultural Society. Let us see. If one family in a hundred cultivates plants or flowers, or shrubs or vines, then we have ten thousand families who are fond of Horticulture, which ought to furnish one member from each, and this would constitute a very respectable nucleus for a City Horticultural Society.

Why, then, do we make our Horticultural Association an appendage to the American Institute? What were our Horticultural savans thinking of? The Institute is very respectable in its way, but the two societies are very much out of place when joined together. The union is an absurdity, a self-evident axiom which needs only to be pointed out to receive general assent. We hope its managers will act promptly and secede, founding an independent New York Horticultural Society, which shall become an institution of itself, to reflect glory and honor upon the city. We suggest: 1st. That every one with an "appreciation of beauty in buildings, grounds, and ornament, and a love for trees and flowers," enrol himself without delay as a member. 2d. That each member make it his business to procure another member, and let each one contribute his quota of information for the benefit of the whole, losing no opportunity to promote the welfare of the institution. 3d. That a fund be provided to give liberal

and flowers, to be exhibited in September next, the expenses of which will be reimbursed in tickets of admission and from the sale of articles exhibited. 4th. That early efforts be made to provide a permanent fund to enable the society to carry on its operations free from financial call.

Let it then be understood that our Horticultural Society is *un fait accompli*, that it is ready to receive the products of our brethren of the interior for the fall exhibition, and to dispense its dollars and silver plate in prizes to the most worthy.

GROWING UPLAND CRANBERRIES.—The grower of some fine cranberries grown on upland, furnishes the *Maine Farmer* a few ideas in relation to their cultivation:

It is the nature of the cranberry, like all other plants, to grow to perfection somewhere, and as it happens, this somewhere is where the land is so sterile that nothing else can grow except moss. In proof of this, we find both the bog and mountain cranberries growing naturally on the mountain, in the lowest bogs, and in all localities, sometimes floating on the pond, always on poor soil, mixed with moss, protection for it both from summer heat and winter cold.

Cole, in his *Fruit Book*, says: "Where a gravelly knoll has been reduced for a road, we saw excellent cranberries of spontaneous production, on dry, hard and poor soil. On another spot, we saw fine fruit by the roadside, on a very poor, dry, hard soil." He also adds, "with these cases of good crops under every disadvantage, it would be surprising if cranberries should not grow well on high land; but as for the culture, I would ask for nothing more than to remove the soil to the depth of one or two feet with a plow and scraper, and plant the same with vines and moss from the cranberry bog. This should be done in the fall or spring, and the tops mowed off the following summer, which will cause them to spread and cover the whole surface. By this experiment I have raised, the present season, at the rate of 559 bushels an acre."

WATERING WITH tepid water.—Every one who has any experience in hot-house arrangement knows that cold water is injurious to plants grown in heat; but M. Jæger (*Gartenflora*) goes further: he advocates the use of tepid water, particularly for winter-flowering plants, Camellias and Azaleas. From experiments which he has made, these flower quickly when water of 77 deg. to 86 deg. is used. In the sunless winter months a Camelia bud may take weeks to open, but if the plant be watered twice with water of the above temperature, or even a little warmer, the flower takes much less time to expand. For plants out of doors, tepid water may also be advantageously employed in certain cases. In proof of which he adduces the following fact: Last summer Aroidæ, and other plants cultivated for their foliage, and requiring heat, grew miserably out of doors in Germany until August or September; but on visiting the garden of M. Heineman, at Erfurt, M. Jæger was astonished to find such plants in fine condition early in the season. On expressing his surprise he was told that the plants had been watered almost every day for a considerable time with tepid water. It is probable, M. Jæger thinks, that the tepid water, though acting on the roots but for a short time, places them in a favorable condition for absorption, while the contrary effect is produced by cold water.

DISCUSSIONS ON FRUIT GROWING.—At a late meeting of Fruit Growers in New York, a letter was read by Solon Robinson, inquiring about raising strawberries with present high prices for labor.

Dr. Ward replied that the raising of strawberries on the old plan involved too much labor—he thought the horse and cultivator would eventually have to do the work. Manure and prepare the ground every way as for Indian corn, and set plants in rows the same distance as corn. Plow and cultivate one way, letting the plants run together in the row, dressing them out with the hoe. Cover with litter or straw in the fall, plough out or go through with cultivator the following

spring, pick the crop and plow under, repeating the operation on the same ground, or elsewhere. Of course a field should be set out each year. The great labor of tillage the second year is thus avoided, a boy and horse doing all the labor of cultivation.

Solon Robinson stated that J. G. Bergen was now raising strawberries in this way. Mr. Pardee would plow under old plants and leave runners for another crop.

In regard to picking, Dr. Ward remarked that boys and girls acquire a great skill by practice—his son had picked 100 quarts in a day. E. Williams said cost of picking depended on size of berries. Monmouth County growers paid their pickers \$1 to \$1.25 per 100 baskets.

Dr. Ward gave a recipe for making grafting wax, such as he uses in his own nursery: 1 part of tallow, 2 of wax, and 4 of rosin. The consistence of the wax will be affected by the weather. If too stiff, he would add tallow, if too soft, rosin. He would use the wax warm and apply it with a brush; put on in this way it was more durable, and a better protection to the graft.

Different methods were suggested for keeping the wax warm during the operation of grafting, such as surrounding the vessel of wax with hot water, or a quilt of batting.

Another recipe, presented to the meeting for making grafting wax, was to melt together 2 parts of rosin, 2, black pitch, 1, white turpentine, 1, tallow, 1, beeswax. This is Watson's recipe—it is applied melted, with a brush.

THE TREES ON THE BOULEVARDS OF PARIS.—All the new plantations of trees on the Boulevards of Paris consist of trees from 10 to 15 years old, and from 26 to 33 feet high. Each Boulevard is planted with one kind of tree only. Thus the Rue Royale is planted with *Acer Negundo*; the Boulevards de la Madeleine and des Capucines with Plane trees; the Boulevard des Italiens with *Ailanthus Glandulosa*; others with Elms, Horse Chestnuts, and Catalpas. The Plane trees are those which are found to succeed the best in the climate of Paris.—*La Belgique Horticole.*

DORYANTHES EXCELSA.—This gigantic Amarylid seldom flowers, and when it does it sends up a flower-stem of 18 to 26 feet in height, bearing fifty carmine-colored flowers. A plant thirty years old flowered last year in the Botanic Garden at St. Petersburg. The flower-stem began to show itself in June, 1862; the first flower opened early in April, 1863, and in the course of three weeks came out in succession. The flower-stem was about 17 feet high, while the plant which flowered with Loddiges in 1833 produced one 26 feet high. The plant succeeds in a light loam, with a winter temperature of from 45 deg. to 50 deg. It dies after flowering, but before doing so generally sends up suckers, by which it can be propagated.—*Journal de la Société Impériale et Centrale d'Horticulture.*

THE RASPBERRY.—No fruit except the currant and perhaps the gooseberry, can be cheaply raised as the raspberry, and yet no fruit adapted to our climate is so much neglected. The raspberry, like most of our small fruits, has been much improved within a few years. Dr. Brinckle, of Philadelphia, has done more, perhaps, than any other man, to improve this fruit, having given us some of the best varieties now in cultivation, if not the very best, and what has been said of the strawberry may also be said of this, that it is difficult to tell how far this improvement may be carried.

Raspberries will grow on almost any good soil, but flourish best on a moist soil containing considerable vegetable mold. For garden culture, after spading in a good coat of well rotted manure and ashes, mark off your rows four feet apart, and if you have plenty of room, five is better, setting the plants two or three feet apart in the rows; in either case they will, if well mulched, (which I consider almost indispensable) soon fill all the intermediate space. A plantation of raspberries will need but little care for five or six years, except thinning out, so that the plants shall stand about a foot apart—tying up and heading in about one-third the length of the canes in the spring; laying down and covering the stocks in the

fall with evergreens, leaves, or anything that will shield them from the effects of the sun, when they are not covered with snow. If kept well mulched they will produce much better fruit and require but little weeding, and that can and ought to be done with the hands, on account of the roots running near the surface of the ground.—*Report Maine Board of Agriculture.*

NEW TREES AND SHRUBS.—M. Villevielle, of Manorque (Basses Alpes), has obtained a red-flowered variety of the *Robinia Pseud-Acacia*, or Locust tree, which is said to be very ornamental, and as fragrant as the common white type, which is known to every one. A hardy *Ceanothus*, raised between *C. Americanus* and *Azureus*, is about to be sent out by M. Dauvesse, of Orleans. It is very free flowering, bearing, from June to October or November, long panicles of pale blue flowers, changing to deeper blue. The long duration of the bloom will, doubtless, render it a favorite for planting in shrubberies. M. Dauvesse has also a white-flowered *Spiraea Fortunei*, which is said to contrast well with the normal rose-colored form; a variety of the Osage Orange, or *Maclura Aurantiaca*, with white variegated leaves; and a Maple with elegantly cut foliage.—*Florist & Pomologist.*

HAUNTED HEARTS.—A novel, by the author of the *LAMPLIGHTER*. Published by J. E. Tilton & Co., Boston. Price \$2.00. The locality in which occurred the principal events of this story is in the northeastern corner of New Jersey, a couple of hours drive from the great city of New York. The main incidents are founded on fact, and with the minor parts are woven together in a very attractive manner. Those who have read the *LAMPLIGHTER* will welcome with pleasure another work by the same author.

SKELETON - LEAVES AND PHANTOM FLOWERS.—Published by J. E. Tilton & Co., Boston. Price \$2.00. A book of 100 pages, in the very superior and attractive style that characterizes the publications of Messrs. J. E. Tilton & Co. Fine heavy

paper, carefully executed engravings, and typographical execution of great beauty. This treatise gives full and careful instruction in the art of skeletonizing leaves, commencing with the proper selection of varieties, and following up with the various processes of preparation to the phantom bouquet. There is an endless source of amusement and instruction provided here, which must be fascinating to all who pursue it. This book, and its companion Wax-flowers, issued in the same style by the same publishers, give a fund of information which if followed will largely increase botanical knowledge. We commend them to our readers.

PARR'S HORTICULTURAL TOOL CHESTS. We recently purchased of Geo. Parr, of Buffalo, New York, one of his Horticultural Tool Chests, which is a very complete affair, and embraces nearly every one of the smaller sized tools made use of in the garden, orchard or vineyard, including the different pruning and grafting implements. They are compactly fitted in a neat chest, which also contains numerous apartments for seeds, etc. Mr. Parr also manufactures every description of carpenter's tools, which he supplies singly, or in chests ranging from a pocket-size to those required by the most extensive builders. His catalogue is worth sending for by any one who wishes to buy good tools.

TRANSACTIONS OF THE ILLINOIS STATE HORTICULTURAL SOCIETY FOR 1863.— There is one important fact that is urged on us year after year as we look over our subscription lists and note the steady increase from the State of Illinois, and that is the prominence which is given to Horticulture throughout the length and breadth of the Garden State. Everybody has heard of the Massachusetts State Horticultural Society, that is one of the fixed institutions of our country. Something is occasionally said of the Pennsylvania State Horticultural Society; but who ever heard of the State Horticultural Society of the Empire State, or that of Strawberry-growing, Peach-raising New Jersey. If we mistake not the indications before us, Massachusetts will some day have to look well to her laurels. These Western States do not grow nor move slowly. Illinois has not yet distinguished herself in doing anything in a small way, and her State Horticultural Society does not appear to be organized on any other foundation than a broad, liberal, and comprehensive one; it has all the elements of talent, financial ability, energy, and success. The prominent and influential men of the State are among its members, and it possesses a vitality that has already marked out a prominent position. The transactions for 1863 can be had bound and post-paid by mail for 90 cents. Address W. C. FLAGG, Cor. Secretary, Alton, Illinois.

CORRESPONDENCE.

PETER B. MEAD, Esq.:

Dear Sir: It is a well known fact that all the varieties of our native grapes, except a few of recent origin, possess a hard and disagreeably sour pulp in the center and surrounding the seeds, and it is as generally conceded that if we can arrive at the same consistency of flesh, with the luscious sweetness and rich aroma of the best foreign sorts, as Hamburgh and Muscat, we should most certainly improve our own Natives. During many years I have advocated this point, and a dozen years ago was

bold enough to assert that we should ultimately obtain this perfection. The results at the present day prove that such an assertion was not made without some physiological knowledge, nor yet from a rambling theory. There is no good to be gained by holding on to any carping about the tastes of those who are used to the flavor of foreign grapes, or that our natives are better as they now exist. We know a well ripened Isabella or Catawba is a fine and delicious fruit, but if we were to have the same consistency as there is in the flesh of a Ham-

Hamburg, no lover of good fruits, not even yourself, would dispute the difference as being anything else than an improvement.

This preamble, Mr. Editor, is suggested by the remarks of your correspondent "Pratiquer," and your reply thereto in the June number of the HORTICULTURIST, with regard to the Adirondac grape. I have no interest in this grape, neither do I wish to help sustain its reputation unless it is worthy of it, but it does appear as if some persons wish to make it go through a more fiery ordeal than the same individuals are satisfied with under other circumstances. May we hope that this close scrutiny will become more general, and we are arriving at that point when doubt will rule until every new candidate for horticultural favor has established its good and better qualities. With regard to Adirondac, in particular, "Pratiquer" calls for more light, the which I have no doubt the interested parties will be able to supply him with to the fullest extent. Further, he says, "I have examined the leaf of the plant sent out by Mr. Bailey, and must say that, to me, it has the appearance of the *Vitis Vinifera*," which, of course, means the foreign species, and unsuited to our climate. Now I have ten plants of Adirondac sent out by Mr. Bailey, and have examined the leaves, and am not at all inclined to think, but am sure, they are all of the same variety, and that a variety of *Vitis Labrusca*, and therefore a true native, and probably hardy. In fact so near is the approach in appearance in every particular, to far, to Isabella, that I send you a leaf of each, and wish you to please say which is which. As to Adirondac being a foreigner, a seedling from a grape of *Vitis Vinifera*, that is simply an impossibility, as the structure and organism proves from the plant itself. We have still further proof in the fruit. No well qualified person who saw and tasted that which was exhibited in New York last season could dispute this, unless his observing faculties are very deficient. Now, Mr. Editor, let us suspend our judgment on Adirondac, accept the facts as they stand, give it a true American welcome, and hope it may be the immediate parent of an

American grape, possessing all the good qualities of an exotic Hamburg, which it more nearly approaches than any other native; and I know if it should prove to be the case hereafter, you will be as ready to acknowledge "the corn" as any of your old co-laborers.

Yours most respectfully,

Wm. CHORLTON.

I have one Delaware vine now throwing eighteen bunches, and it appears very thrifty; how many shall I let grow? It's of the lot you sent me a year ago last spring—those *little fellows* not larger than grass straws. The vine stands on the bank of Fourth lake, and has not been covered at all for two winters. I have more of the same variety, but not bearing as many grapes. You were correct when you said in reference to the one year old Delawares that you would rather set them out than larger ones grown in the usual way. I am ahead of the two-year-old fellows here.

G. P. D.

Madison, Wis., June, 1864.

[You have managed your vines well to have them give such results the third season. The vines sent were small, but the wood and roots were well ripened, and having received proper care have given you satisfaction. This will be the case with the Delaware if good vines are planted, and are rightly treated afterwards. We have planted large numbers of vines of all ages, from one to six years old, and give our decided preference to one year old plants well grown from single eyes. You must not allow your young vines to overbear this, their first season of fruit. If your vine is very strong, leave eight or nine bunches to mature; if not, reduce the number still more. You should have done this sooner to have had the full benefit. As soon as the berries are well set is the proper time. Your weaker vines should be reduced to two bunches each.—ED.]

DEAR SIRS.—The July number of the HORTICULTURIST, page 228, reports Dr. Trimble's remarks on the destruction of the Aphis by the lady-bug. Will the doctor be kind enough to inform us if the aphis destroys any other insect? Doubtless it is sent to rid us of some other pest. The latter appeared this year, in countless hosts, on many kinds of plants, weeds, shrubs and trees, preceded by the lady-bug in large numbers.

On my cherry and plum trees, where the aphis was abundant, I noticed the absence of curculio, a rare occurrence, and am led to inquire if there may not be something in this visitation to diminish the numbers of the "Little Turk."

For three years successively every fruit and forest tree, shrub and bush have been covered with rose-bugs from the middle to the end of June. This year they have nearly disappeared, except on the roses, where they are as abundant as usual. Has any insect driven them away? Has the aphis or canker-worm anything to do with it? Rose-bugs migrate. Some years ago they appeared in great numbers in Pennsylvania—later in New Jersey, traveling in a north-easterly direction in divergent lines, thus:



They have passed Newburgh, few being found south of it, and large quantities are now (June 20th) about three miles north, covering every green thing apparently; they are stopped in their course by water, rivers or lakes. A gentleman in New Jersey told me last season that he could gather rose-bugs by the half bushel at the foot of the Palisades. It may interest the curious to know if any got across into Westchester County, and in what direction they came. Will some one of your correspondents give us the information?

The canker-worm has taken possession

of our fruit trees this their summer; what is mission except to destroy vegetation?

If the aphis drive away the curculio, we can afford to give them full possession for one year, especially as we know how to get rid of them by means of the lady-bug.

If any of your friends are troubled with mosquitos, let me recommend them to cultivate the dragon-fly—they make quick work. Why should we not keep mosquito hawks as well as hunting dogs?

Flies and such simpletons of the insect tribe who are fond of sweets, and who don't mind the cobalt in it, are easily got rid of, but curculio and many other insects require energy, perseverance, talent and

STRATEGY.

GENTLEMEN:

I owe you many thanks for your currant wine recipe in Vol. 17, page 379, 1862. I have also "tried it" and found it excellent. The suggestions are all worthy of attention. It is not long since, that a distinguished professor, to whom I offered this wine, said, "Ah! this reminds me of the Old London particular Teneriffe. Where do you get such wine?"

I have made it for three years, and you will excuse me if I do not follow your injunction closely (article 8,) for I find it may not only be *looked on*, but tasted *while it is red*. It gives good satisfaction to the palate, and does not deplete the purse as sorely as some of the drugs sold under the name of wine. Let others try it. This recipe has been worth already to me, more than my three years' subscription to the HORTICULTURIST. I can certify to the 7th article, relating to the use of alcohol barrels. They are worthless. A few day's since I found one that had cast its hoops, and "all the wine was spilt about the cellar." Iron hooped casks are the only ones to be relied on.

VINUM RIBES.

"Beware the Northeaster!"

BROWNE'S

METALLIC WEATHER STRIP AND WINDOW BANDS,

Exclude Rain, Cold, Wind, Snow, and Dust from the Tops, Bottoms
and Centers of Doors and Windows of every description,
interfering with the free use of same for Ventilating purposes at all times.

THEY SAVE ONE-HALF THE FUEL IN WINTER
Dust, Rain, and Noise in Summer, and are warranted good for five years.

For more particulars in referring to the following persons, as to the merits of the Metallic Weather Strip and Window Bands. For Circular, with Price List, address

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DECEMBER, 1864.

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and
Taste.

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VOL. 19,-----1864.

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THE
HORTICULTURIST.

VOL. XIX.....DECEMBER, 1864.....NO. CCXXII.

THE INFLUENCE OF LIGHT ON VEGETATION.

THE influence of light upon growing plants is familiar to observation. The sun is the source of light to our system, but it should be known and considered that the effects produced by his direct rays are not the same as those produced by diffused and reflected light: in other words, the science of the sunbeam and the science of light are two very different things.

According to the theory of Newton, light is an emission of particles from a luminous body. The theory of Young and Fresnel represents it as the undulation of a subtle medium. But a sun-beam is a compound thing. Three distinct principles, if not more, or three modifications of one principle, are discoverable in every ray of sun-light. These are light, heat, and actinism.

When a sun-beam is admitted into a darkened chamber, and received upon a transparent prism, it is decomposed. A prismatic spectrum of brilliant hues is produced, as we know, upon the screen or wall. The three primary colors—red, yellow and blue—are the elements out of which the seven-hued image is formed. If a thermometer is placed in the blue ray of the spectrum it will indicate 56° Fahrenheit in the yellow ray

it will rise to 62°, and a little beyond the red ray, it will go up to 79°. But in the undecomposed sunbeam, the temperature is the same everywhere. It is evident, therefore, that there are heat rays, as well as light rays in the sunbeam. But this is not all. If a piece of photographic paper be placed within the spectrum, it will receive the deepest shade where the blue and violet rays fall upon it. Here, then, are rays which produce chemical changes in bodies. They are denominated *actinic* rays, and their influence is named *actinism*.

If we compare a plant growing in the shadowed recesses of the forest, with another fully exposed to the sun's rays, the pale, blanched hue of the former would be at once apparent. Here, then, we discover one of the effects of the light rays. Again, if we take a plant from the open air, and place it in a darkened room, where light is admitted through a single narrow window, a change will soon be visible. The plant loses its healthy appearance and becomes pale. The leaves most distant from the light, lengthen their stalks, and stretch up into a position in which they can obtain more copious draughts of the health-giving

stream. The whole plant turns toward the window, with an unmistakable yearning for the sun. If it is removed from confinement, and exposed to a full flood of light, its health and vigor returns, and it soon loses its pallid hue, and puts on its proper colors.

In the vegetable world, then, light and color are intimately associated, and the same is true in the animal world. The gorgeous hues of tropical vegetation are painted in the sunny skies of the climes where it grows. The light rays are the chief agents in producing that compound substance in the cells of plants on which their green color depends. Woody tissue will not form, to any available extent, without the influence of these rays. Deprived of them the massive oak would grow up a pallid, fragile plant, without strength or value.

Light stimulates plants to respiration, for they breathe as well as animals, and they repose, like them, in the dark hours of the night. In the day time they inhale the carbonic acid of the atmosphere and breathe out oxygen: in the night, also, they still drink in the same element, but it is in scanty draughts compared with what they take under the stimulus of light.

It has been observed that in the bending of plants towards the light, the blue rays have been found to be most powerful in producing this effect, while the red rays seem to repel, and plants to turn from them. The light which is reflected towards us from the blue sky is polarized, and polarized light possesses peculiar properties which doubtless affect the growth of plants in ways we do not comprehend.

Let us now turn to the heat-rays of the sun-beam. About one-third of those which infringe upon our atmosphere are absorbed by it, so that the air screens us from the full intensity of the sun's heat. As we descend below the surface of the earth, the temperature increases. But at length we reach a stratum where the temperature is always uniform. The caves of the French Observatory have steadily remained at 53° Fahrenheit. They are ninety feet below

the surface. Some mines have a perpetual spring. The heat absorbed by the earth's crust in summer essentially modifies the cold in the winter season.

Heat appears to have great influence upon vegetable irritability. The *Desmodium Gyraus*, which grows upon the banks of the Ganges, moves its leaflets perpetually both by day and by night. But this curious plant is motionless except where the temperature is about 100°. The sensitive plant requires artificial warmth in our northern climate, and although our vegetation is not destitute of instances of this sort of irritability, we have nothing analogous to the *Desmodium Gyraus*.

When Dr. Franklin placed pieces of different colored cloth upon snow, he found that the sun's rays melted the snow more rapidly beneath some colors than beneath others. The order of absorption of heat by the different colors, is black, brown, green red, yellow, and white. So that black clothing drinks in the sun's warmth more greedily than that which is of a lighter color. Those bodies, however, which readily absorb heat, part with it freely also—in philosophical language, they have high radiating powers.

Heat is the chief agent in producing the trade winds. The heated air of the equatorial region rises into the higher regions of the atmosphere, and colder air rushes in laterally to supply its place. This constant interchange of air between the equator and the poles, and the rotation of the earth, conjointly occasion these well-known winds.

The actinic rays now demand notice. They appear to be especially powerful in producing the germination of seeds, while the light-rays actually seem to be opposed to this development of vitality. The stem of a young plant grown under the influence of the actinic rays remain soft, and extends to a great length without enlarging in diameter. It is for this reason that gardeners sometimes use deep blue glasses to aid cuttings in striking root.

Actinism is less known as to its effect upon the animal kingdom. The differ-

shades of color in the human race, freckles and sunburn, are all probably dependent, in part at least, upon the actinic rays of the sunbeam. Chlorine and hydrogen gas mingled in combining proportions, do not unite in the dark. But if the mixture is exposed to the light of the sun, they at once combine, and generally with a violent explosion. If the chlorine alone is exposed, for a time, to the sunlight, it will afterwards unite with the hydrogen in the dark.

The actinic rays produce an effect upon the granite rock, as well as upon the delicate organization of the plant. But during the night these effects are wholly, or in part, obliterated, and but for this nocturnal rest the hardest crag would crumble, and in time fall to pieces and perish.

Actinism has furnished us one of the most wonderful and pleasing arts of modern times—the art of photography. The whole mystery of the Daguerreotype process, in its outlines, may be readily comprehended. A polished plate of silvered copper is subjected to the vapor of iodine, and is then

transferred, without exposure to the light, to the camera. The image of the object to be taken, rapidly depicts itself upon this prepared plate, which is then removed from its dark receptacle, and exposed to mercurial vapor. The picture now appears, and must be rendered permanent by immersion in a solution of hyposulphite of soda. These are the main principles involved in the art of Photography, and in its different types and forms, although the processes are varied in the production of different kinds of pictures.

In addition to these three principles in the sunbeam—light, heat, and actinism—it is believed by some of the most careful experimenters, that electricity may also be detected.

In the animal kingdom the effects of light upon development and growth are equally apparent and important. But investigations in this direction would lead us into too wide a field for our present purposes.

A GREEN-HOUSE AND GRAPERY COMBINED.

BY GEO. E. & F. W. WOODWARD.

GREEN-HOUSES and Graperies are usually erected as separate structures. While it is desirable that they should be so on extensive places where much accommodation is required, in grounds of moderate extent many advantages are gained by having the houses

by the owner and his friends, are all obtained by such an arrangement. In the present instance the Green-house occupies



Fig. 1.—Perspective.

connected. Facility for heating and management, protection of those houses requiring the most heat, by those kept cold or at only moderate temperature, and the ease with which all departments may be visited

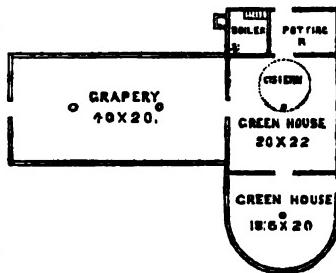


Fig. 2.—Ground Plan.

a position east and west, and is protected on its north and most exposed quarter by the Grapery. The boiler located as shown on the plan, supplies heat to all the houses.

The Grapery, not being intended as a forcing or early house, has but one hot water pipe, which will afford sufficient heat to enable the vines to be started two or three weeks earlier in the spring, or if not desirable to anticipate their natural growth, will prevent them receiving sudden checks from frosty nights, which sometimes happen at the latter end of April and beginning of May, after the vines have broken their buds. We can prolong the season also, until about Christmas, in favorable years. Several of the late ripening, and late keeping varieties of the Grape, are intended to be grown, Lady Downes, Barbarossa, Frogmore St. Peters and others. These by the addition of another pipe and proper care in management, could be kept on the vines in fine condition until February, and perhaps March.

The sill or wall plate of the Grapery, is but two feet above the border; thus giving nearly the whole length of cane for fruiting upon the rafter. Side lights are dispensed with, bottom ventilation being afforded by apertures through the brick wall, closed by shutters. The wall is supported on stone lintels, resting on brick piers placed about five feet apart, extending to the bottom of the border, allowing free access for the vine roots to the outside. Ventilation at the top is effected by means of sashes, hung in the roof at the ridge, which are raised and lowered by an iron shaft running the length of the building, with elbow attachments at each ventilator. A cord and lever at one end, works the shaft, raising the whole of the ventilators at one operation. This is by far the best method of ventilation, but more expensive than that generally used. It is strong, effective, rarely requires repair, and the sashes, are never in danger of being

blown open and broken by high winds. The floor level of the Green-house is two feet below that of the Grapery, in order that there may be sufficient height at the sides, to place plants on the tables, and bring them near the glass. General collections of plants cannot well be grown in one house; for this reason, we have the house divided by a glass partition. By an arrangement of valves in the hot water pipes, and independent ventilation a different temperature can be maintained in each. Plants requiring a considerable degree of heat will find a congenial location in the central house, while those in bloom, and others to which a cooler atmosphere is more suitable, will be placed at the circular end of the building.

Three rows of heating pipe run around the Green-houses, which will give ample heat in the coldest weather. A propagating table is provided by enclosing a portion of the pipes in the central house. Below the floor is a cistern of 3000 gallons capacity, from which tanks holding 100 gallons each are supplied. The Green-houses are entered through a door and porch on the south, not shown in the engraving, also through potting room and Grapery. The design of these houses gives an opportunity for further addition if desired, by a wing on the south, corresponding with the Grapery on the north. Such an extension would improve the architectural appearance of the whole. An early Grapery might be thus located and be heated from the same boiler. These houses, lately designed and erected by us for John L. Rogers, Esq., of Newburgh, N. Y., form a picturesque and attractive feature in his well kept grounds, and will no doubt be a source of much enjoyment to their owner.

APPLE—BEAUTY OF KENT.

THIS in one of the most beautiful apples in appearance that we have, and though of second rate flavor, is desirable on account of its size and showiness. Mr. Downing

gives the following description of it. The tree grows very strong and upright, moderately productive. Fruit very large, roundish, but flat at the base, and narrowing dis-

tinently to the eye, where it is slightly ribbed. Skin smooth, greenish yellow, marked with large broken stripes of purplish red. Stalk short, slender, deeply planted in a round, russety, corrugated cavity. Calyx small, set in a narrow basin. Flesh juicy, crisp, tender, with a simple sub-acid flavor. October and November. Of English origin.



Fig. 1.—Beauty of Kent.

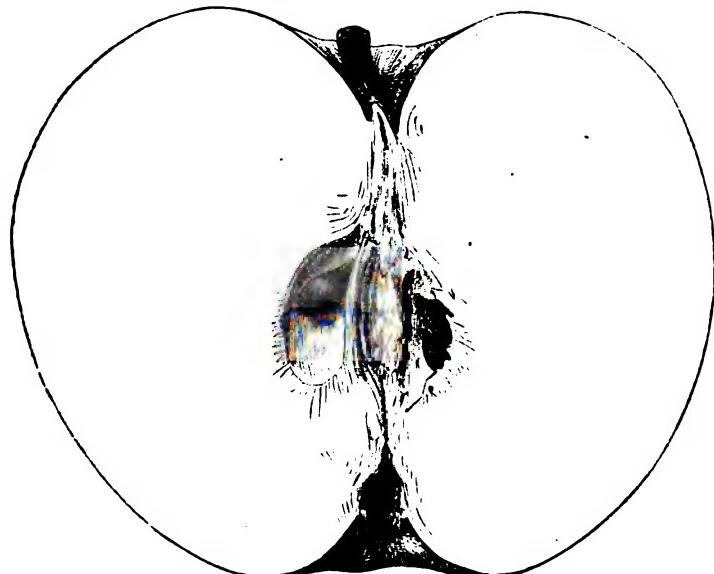


Fig. 2.—Section.

WRITTEN FOR THE HORTICULTURIST.

DUTCH BULBS.

BY EDWARD S. RAND, JR., BOSTON.

THE bulbs generally known as Dutch, or Holland Bulbs, are the Hyacinth, Tulip, Crocus, Jonquil, Snowdrop, and Narcissus: sometimes with these are imported in assorted packages, a few bulbs of various kinds of Lilies, Erythronium, Fritillaria, Scilla, and Gladiolus. It is only of the first five however that we intend to write, though the same general treatment, both in parlor and garden culture, will be successful with the others. These are called Dutch Bulbs because usually imported from Holland, and not because, as many suppose, they are natives of that country, indeed the fact is far otherwise—the Hyacinth being a native of the Levant—the Tulip indigenous to the Levant and the South of Europe—the Crocus to England, France, Italy, Greece and the Crimea—the Jonquil and Narcissus to Spain, France, Italy, the South of Europe, and Asia Minor—and the Snowdrop to England and the Crimea.

From the earliest times these bulbs have been extensively grown in Holland; there the finest florists' varieties have been raised, and on that country the floricultural world is dependent for its supply.

Were the question asked what one plant, alike commendable for beauty and fragrance, can be grown in the parlor with the least expense and trouble, we should answer the hyacinth. The plant has its imperfections, (if we may be allowed so to speak) the foliage is by no means graceful, the flower is transient—and once out of bloom the bulb is almost worthless. Yet a fine effect in foliage may be produced by massing, and by different plantings, a continued succession of bloom.

These bulbs being of kindred nature require the same general treatment as to water, light and air, and flourish in the same soil and in similar situations. We need, therefore, only to particularise when treating of one species, being careful to note

when treating of others any minor differences in culture.

And first the Hyacinth.—All our garden varieties are derived from *H. orientalis*, the original species, as is often the case, being lost in the new and improved florists' varieties.

There is another little gem of a species which is perfectly hardy, *H. amethystinus*, flowers bright blue and pendant, a native of the South of Europe, and long naturalized in English gardens, its treatment only differing from that of the other species in its requiring to be planted in a very sandy loam, or if in common garden mould, to have an inch of sand around it to prevent the bulb from rotting. As the color is most exquisite it deserves a place in every garden—it also possesses the delightful fragrance of the other species.

Hyacinths are generally procured of the seedsman during the months of October and November, and should be planted immediately, both for parlor and garden culture. Much depends upon the selection of the bulbs, yet size is no criterion of excellence, some of the best varieties are always small, others always large. As a general rule, hard, sound bulbs, which feel firm to the finger when pressed, will give good bloom, any which are soft or scaly (like a lily) should be rejected. The color of the bulb is also no sure rule for determining the color of the flower, though generally those with dark red or blueish skins, produce red, pink or blue flowers, and white skinned bulbs are more likely to be white or yellow varieties.

GARDEN CULTURE.

The bed should be of rich loam, with a liberal admixture of well-rotted cow-dung, and sand enough to keep it from becoming sodden. Good drainage is essential; where the subsoil is clay this must be secured by excavating the bed to the depth of three

feet, and filling in with a layer of small stones for about six inches or more, then replace the soil; where the subsoil is gravel no drainage will be required. The bed should slope a little to allow the surface water in winter to run off and should face the south or west, in order to first feel the warm rays of the sun in early spring, and should be sheltered from cold winds; an angle formed by the house, and protected from the north and east is an admirable place for a bulb bed.

Having thus located and provided drainage for our bed, dig it well and pulverize the soil, raking the surface smooth. Lay the bulbs upon the bed, about nine inches apart, in the place each is to occupy, so as to be sure to ensure regular planting, with the name of each (if it is desirable to have named varieties) broadly written with a soft blacklead pencil, on a wooden lable which has been smeared with white lead. Then plant each bulb about two inches deep firmly pressing the earth around it.

If the soil is clayey it is a good plan to surround each bulb with a handful of common sand, which will prevent rotting. The bulbs will immediately begin to make roots, which will continue to grow until the ground freezes. On the approach of severe frosts throw over the bed a covering of litter, old straw or long manure, to the depth of four inches; this will often protect the ground from frost, and thus give the roots a longer season of growth, but care must be taken not to remove it too early in the spring, as the bulbs often grow up into it, and a severe frost may nip the shoots and greatly injure if not destroy the flower. After the flowering season is over, the old flower stems should be cut away, but none of the foliage, which will of itself die away before midsummer. The general rule in the management of bulbs is, the better and larger you grow the foliage the finer will be the flower. When the leaves have all become yellow the bulb should be taken up, carefully dried and put away till Autumn; but if merely a spring show is desired, the best

and most common way is to leave the bulb in the ground—where it will bloom every spring, but seldom as finely as if annually replanted. Hyacinths in the open air are usually sturdy enough to support themselves, sometimes, however, they need stakes, which should be young shoots of willow with the bark on, which are not easily distinguishable among the foliage.

PARLOR CULTURE.—IN EARTH.

Select soft-baked eight inch pots, and put in the bottom of each about an inch of broken potsherds, charcoal or small pebbles, as may be most convenient: then fill to the top with a compost of one part loam, one part clean sand, and one part well-rotted cow-manure, with an admixture of bone or horn shavings, if procurable, which gives increased size and brilliancy to the flower. Set one bulb in the centre of each pot, just deep enough to allow the top of the crown to be seen—press the soil around the bulb and give a thorough watering. Set the pots in a dark but warm cellar—supplying them with water from time to time, to prevent them from drying up. The plants should be kept in the dark for four to six weeks, at the end of which time the pots will be full of roots, but the sprouts will not have grown more than an inch. The pots may then be brought into the full sun-light—where the shoot will soon change from yellow to deep green, will grow very rapidly, and produce flowers in about four weeks. Water may be liberally supplied, only taking care not to give so much as to rot the roots.

IN WATER.

Select hard, medium sized bulbs, examine carefully to see that there are no offsets or side bulbs. Place the bulbs in the glasses, which should be filled with rain water, and set them in a warm, dark closet. They should thus remain until the roots at least half fill the glass, occasionally being examined that the water does not become foul or evaporate.

Bring them out to full sun-light as need-

ed, they will bloom in about three weeks. The flowers of bulbs grown in water are generally weaker and less highly colored than of those grown in earth. Bulbs thus grown may be planted in earth as soon as out of bloom, and the bulb being thus much strengthened, blooms better the following year—but usually such bulbs are not worth preserving. A few drops of aqua ammonia added to the water in which the bulbs grow will give a high color to the flower. The water should be changed once in ten days, care being taken that that filled in be of the same temperature with that turned out.

If the roots become coated with green slime, they may be washed in luke-warm water, care being taken not to break or bruise them.

IN MOSS AND SAND.

These modes of growing bulbs are similar to those just described—the general treatment is the same. The moss should be the white sphagnum moss of meadows, as this is peculiarly retentive of moisture, and is neat and clean. The sand used should be white or silver sand, such as is used by glass makers—beach sand will do if it has previously been freshened by frequent washings in fresh water. In planting, the crown of the bulb should be just protruded above the moss or sand. A mode of culture which we have adopted for the past few years seems to combine all the advantages of earth, water and moss culture, and has been so successful that we have no hesitation in recommending it for general adoption. About the twentieth of October, plant the bulbs in earth and put them in the cellar, as above described, being careful to have pots all of one size. Now for the bulb table: let it be of black-walnut with turned legs, so as to be an ornament to the parlor, about four and a half feet long by two feet wide in the clear, so as to hold three rows of eight pots each, let the table be hollow and eight to ten inches deep—all thoroughly joined together and well coated with white lead on the inside, particularly

around the joints. Into this table fit a zinc pan of the same depth, with wire handles, which turn down into the pan on each end. About the middle of November bring from the cellar enough pots of bulbs to fill the table, set them in the pan and fill the interstices with common wood moss; when it is level with the top of the pots cover all with some short green moss, such as is found on decayed trees or in deep woods. You have thus a very pretty moss garden with the yellow shoots of the bulbs peeping through. Water copiously every morning, letting it fall from the rose of a small watering pot on to the moss. The water will collect in the pan, the roots of the bulbs find their way out of the holes in the bottom of the pots and riot in the moisture: the shoots grow wonderfully, and you have hyacinths of marvelous size in a moss garden. As soon as a flower fades, gently lift the moss, remove the pot, and in its place put a new one from the cellar. And thus we have bulbs in full bloom from Thanksgiving until they again blossom in the border. A few Narcissus, especially the Polyanthus varieties, add much to the effect. The table should be kept in full sun-light, and may be made of any material or dimensions.

VARIETIES OF HYACINTHS.

Among the hundred or more varieties we do not pretend to make a complete selection. The new and costly varieties are not what we seek, we want a free, showy bloom, and for our purpose single varieties are better than double—the bulbs should cost from a shilling to thirty cents each. The following are good, free blooming kinds, of various colors:

RED.

Rex Rubrorum, Grootverst Acteus, Bouquet Tendre, Mars, Grand Vedette, Rose la Mignonne, Waterloo, Belle Eleonore, Pronkjuweel, Amy.

WHITE.

Glorea Florum, Triomphe Blandine, Anna Maria, Mont Blanc, Victoria, La Virginite, Voltaire, Grand Vainqueur, Konigs Juweel, Miss Kitty.

YELLOW.

Alida Jacoba, Fleur d'Or, Ophir, Bouquet d'Orange, Louis d'Or, Heroine, Canary Bird.

BLUE.

Orondatus, Laurens Koster, L'Amie du Coeur, Emilius, Amicus, Argus, Robert Peel, A la mode, Roi Josephat, Charles Dickens, Emicus Porcelain Sceptre, Iris, Bouquet Purple.

THE TULIP.

With the exception of the varieties of *Tulipa suavolens*, commonly known as Duc Van Thol, this bulb is not desirable, nor is it a favorite for parlor culture. The bulbs of the Van Thol are small, and should have the same general culture as hyacinths in earth, only three or four may be planted in a six-inch pot, and the crown of the bulb should be covered; in water they do not succeed, though in sand they will flower well. The flower is scarlet and yellow, each bulb produces one on a stem not more than four inches in height: there are single and double varieties, of which the former are more desirable.

The Sun's Eye Tulip, *T. oculis solis*, is a dwarf species which is sometimes grown in the window, the flowers are red, with a dark eye, and the bulbs require the same treatment as the Van Thol.

In Garden Culture a bed prepared as directed for hyacinths will do admirably—the soil should be sandy loam with the rotten turf of an old pasture, though they bloom well in any garden soil. They should be planted like hyacinths, the taller growing varieties in the middle of the bed, edging off with dwarf varieties. All the garden varieties are the offspring of *T. Gesneriana*, and are very numerous and of various shades and combinations of color.

Named varieties may be procured of all florists, varying in price from a few cents to a dollar. For general effect, the Tulip is best grown in masses, which produce a gorgeous appearance when in full bloom.

THE CROCUS.

This is a little gem of a bulb, always welcome with its bright blossoms as the

habpinger of spring. There are about twenty-five species (including the autumnal flowering) and numerous varieties.

As a parlor plant, the crocus is very pretty but rather insignificant—it is in the garden it displays its full beauty. If you grow for the parlor it should be treated like a hyacinth, and grown in earth—half a dozen bulbs may be planted in a pot—they should be covered about an inch with soil. Pretty effects are sometimes produced by planting in ornamental pots, the favorite shape of which is that of a porcupine; when the leaves grow they represent the quills, but from the difficulty of making all the bulbs shoot out and bloom at the same time, the appearance is more often bare and ragged. In the garden, the bulbs should be planted in masses or lines, as the flowers are too small to be effective singly.

The following are original species from which most of the varieties have sprung—the Autumnal species are very beautiful and desirable, blooming at a season when all other flowers are gone:

Crocus vernus, lilac, white, or purple.
 " *versicolor*; purple and white.
 " *biflorus*; white and purple.
 " *minimus*; white and purple.
 " *susianus*; yellow.
 " *sulphureus*; "
 " *luteus*; "
 " *aureus*; "
 " *sativus*; pale purple, autumnal flowering, the saffron of commerce.
 " *speciosus*; purple, large flowers, autumnal flowering.

The Crocus is impatient of removal, and the bulbs once planted should seldom be disturbed.

THE SNOWDROP.

This pretty little bulb is a general favorite, blooming in the snow, and always attractive from its grace and delicacy. As a parlor plant it is too small to be of value. In the garden it thrives in any soil; it should be planted in October, in patches, and the bulbs should be left undisturbed. There are double and single varieties of the common species, (*Galanthus nivalis*) natives

of England. The Crimea snowdrop (*G. pli-catus*) is the finest species, producing very large green and white flowers, but it is not common. All the species have a delicate, peculiar, and very pleasant fragrance.

THE JONQUIL AND NARCISSUS.

Both of these bulbs, the former being only a variety of the latter, are favorites for parlor culture; the treatment required is the same as for the hyacinth, and they may be grown equally well in earth, sand, moss or water. The same soil is also suitable for them. A few plants in the hyacinth case previously described, have a pretty effect. The Jonquil (*Narcissus Jonquilla*) is a native of Spain—there are both single and double flowered varieties, both are exquisitely fragrant and bloom freely; the flowers are yellow and very showy. There are many species of the narcissus, all of which are valuable border flowers, and most of them bear forcing well.

Those most commonly grown in the parlor are

Narcissus Italicus, the Roman Narcissus; flowers pale yellow, single—or creamy-white, double, and exquisitely fragrant—native of Italy. *N. papyraceus*, the paper-

white narcissus; flowers pure white, single, very fragrant—native of Asia Minor.

Narcissus Tazetta, or *Polyanthus Narcissus*; flowers white and yellow, very fragrant—native of Spain.

Narcissus Trewianus, or *N. Bazelman major*; flowers white and yellow, fragrant.

The following are superior florists varieties of the *Polyanthus Narcissus*:

Grand Monarque; white and yellow.

Mignonette; orange.

Hercules; white and orange.

Grand Primo; white and citron.

Grand Prince; white and lemon.

Soleil d'Or; yellow and orange.

The other bulbs often imported as Dutch bulbs, such as *Scillas*, *Ornithogalum*, *Lilies*, *Fritillarias*, *Iris*, &c., require the same general garden treatment as the Hyacinth and *Narcissus*—all will grow in any good garden soil, but do better with a prepared border of sandy loam. Care must be taken to adapt the depth of planting to the size of the bulb: as a general rule, the crown of the bulb should be covered at least an inch.

Scilla præcox—the early blooming squill—bears forcing well, is adapted for parlor culture, and remarkable for the exquisite blue of the flowers.

HOW TO MAKE A PARADISE IN THE COUNTRY.

BY THE AUTHOR OF LETTERS FROM UNDER A BRIDGE.—CONTINUED.

I AM supposing all along, dear reader, that you have had no experience of country life, but that sick of a number in a brick block, or (if a traveller) weary of the "perpetual flow of people," you want a patch of the globe's surface to yourself, and room enough to scream, let off champagne-corks, or throw stones, without disturbance to your neighbor. The intense yearning for this degree of liberty has led some seekers after the pastoral rather farther into the wilderness than was necessary; and while writing on the subject of a selection of rural sites, it is worth while, perhaps, to specify the desirable degree of neighborhood.

In your own person, probably, you do not combine blacksmith, carpenter, tinman, grocer, apothecary, wet-nurse, dry-nurse, washerwoman and doctor. Shoes and clothes can wait your convenience for mending; but the little necessities supplied by the above list of vocations are rather imperative, and they can only be ministered to in any degree of comfortable perfection by a village of at least a thousand inhabitants. Two or three miles is far enough to send your horse to be shod, and far enough to send for doctor or washerwoman, and half the distance would be better, if there was no prospect of the extension of the village limits. But the com-

mon diameter of idle boys' rambles is a mile out of the village, and to be just beyond that is very necessary, if you care for plums and apples. The church bell should be within hearing, and it is mellowed deliciously by a mile or two of hill and dale, and your wife will probably belong to a "sewing circle," to which it is very much for her health to walk, especially if the horse is wanted for plowing. This suggests to me another point which I had nearly overlooked.

The farmer pretends to no "gentility;" I may be permitted to say, therefore, that neighbors are a luxury, both expensive and inconvenient. The necessity you feel for society, of course, will modify very much the just stated considerations on the subject of vicinage. He who has lived only in towns, or passed his life (as travellers do) only as a receiver of hospitality, is little aware of the difference between a country and city call, or between receiving a visit and paying one. In town, "not at home," in any of its shapes, is a great preserver of personal liberty, and gives no offence. In the country, you are "at home," *will-you will-you!* As a stranger paying a visit, you choose the time most convenient to your self, and abridge the call at pleasure. In your own house, the visitor may find you at a very inconvenient hour, stay a very inconvenient time, and as you have no liberty to deny yourself at your country door, it may (or may not, I say, according to your taste) be a considerable evil. This point should be well settled, however, before you determine your distance from a closely-settled neighborhood, for many a man would rather send his horse two miles farther to be shod than live within the convenience of "sociable neighbors." A resident in a city, by-the-way (and it is a point which should be kept in mind by the retiring metropolitan) has, properly speaking, no neighbors. He has friends, chosen or made by similarity of pursuit, congeniality of taste, or accident, which might have been left unimproved. His literal neighbors he knows by name, if they keep a brass plate, but they are con-

tented to know as little of him, and the acquaintance ends, without offence, in the perusal of the name and number on the door. In the city you pick your friends. In the country you "take them in the lump."

True, country neighbors are almost always desirable acquaintances—simple in their habits, and pure in their morals and conversation. But this letter is addressed to men retiring from the world, who look forward to the undisturbed enjoyment of trees and fields, who expect life to be filled up with the enjoyment of dew at morn, shade at noon, and the glory of sunset and starlight, and who consider the complete repose of the articulating organs, and release from oppressive and unmeaning social observances, as the fruition of Paradise. To men who have experience or philosophy enough to have reduced life to this, I should recommend a distance of five miles from any village or any family with grown-up daughters. In my character of dollar, I may be forgiven for remarking, also, that this degree of seclusion doubles an income (by enabling a man to live on half of it), and so freeing the mind from the care of self, removes the very gravest of the obstacles to happiness. I refer to no saving which infringes on comfort. The housekeeper who caters for her own family in an unvisited seclusion, and the housekeeper who provides for her family with an eye to the possible or probable interruption of acquaintances not friends, live at very different rates; and the latter adds one dish to the bounty of the table, perhaps, but two is to vanity. Still more in the comfort and expensiveness of dress. The natural and most blissful costume of man in summer, all told, is shirt, slippers, and pantaloons. The compulsory articles of coat, suspenders, waistcoat, and cravat (gloves would be ridiculous) are a tribute paid to the chance of visitors, as is also, probably, some dollars difference in the quality of the hat.

I say nothing of the comfort of a bad hat (one you can sit upon, or water your horse from, or bide the storm in, without remorse) nor of the luxury of having half a dozen,

which you do when they are cheap, and so saving the mental burthen of retaining the geography of an article so easily mislaid. A man is a slave to anything on his person he is afraid to spoil—a slave (if he is not rich, as we are not, dear reader!) to any costly habiliment whatever. The trees nod no less graciously (it is a pleasure to be able to say) because one's trousers are of a rational volume over the portion most tried by a sedentary man, nor because one's hat is of an equivocal shape—having served as a non-conductor between a wet log and its proprietor; but ladies do, and especially country ladies; and even if they did not, there is enough of the leaven of youth, even in philosophers, to make them unwilling to appear to positive disadvantage, and unless you are quite at your ease as to even the ridiculous shabbiness of your outer man, there is no liberty—no economical liberty, I mean—in rural life. Do not mislead yourself, dear reader; I am perfectly aware that a Spanish sombrero, a pair of large French trowsers plaited over the hips, a well made English shoe, and a handsome checked shirt, form as easy a costume for the country as a philosopher could desire. But I write for men who must attain the same comfort in a shirt of a perfectly independent description, trowsers, oftenest, that have seen service as tights, and show a fresher dye in the seams, a hat, price twenty-five

cents, (by the dozen,) and shoes of a remediless capriciousness of outline.

I acknowledge that such a costume is a liberty with daylight, which should only be taken within one's own fence, and that it is a misfortune to be surprised in it by a stranger, even there. But I wish to impress upon those to whom this letter is addressed, the obligations of country neighborhood as to dress and table, and the expediency of securing the degree of liberty which may be desired, by a barrier of distance. Sociable country neighbors, as I said before, are a luxury, but they are certainly an expensive one. Judging by data within my reach, I should say that a man who could live for fifteen hundred dollars a year, within a mile of a sociable village, could have the same personal comforts at ten miles distance for half the money. He numbers, say fifteen families, in his acquaintance, and of course pays at a rate of fifty dollars a family for their gratification. Now it is a question whether you would not rather have the money in board fence or Berkshire hogs. You may like society, and yet not like it at such a high price. Or (but this would lead me to another subject) you may prefer society in a lump; and with a house full of friends in the months of June and July, live in contemplative and economical solitude the remainder of the year. And this latter plan I take the liberty to recommend, more particularly to students and authors.

THE CARNATION,—ITS HISTORY AND CHARACTER.

BY AN AMATEUR FLORIST.—CONCLUDED.

III. ITS CULTURE.

WHY is it we so seldom see a good collection of Carnations in our gardens? This question is answered by most persons, by saying that the climate does not suit them. I am inclined to think this a mistake. In Germany the Carnation is raised in very great perfection, and the climate there is exceedingly like our own.

I am well convinced that it is not the climate. I am also pretty confident that it

arises from the too trifling care bestowed on this plant.

The Carnation is treated by most persons like a common Pink, or hardy border flower, I am sorry to say, that with this treatment it will not succeed here, and does not succeed either in England or on the Continent. There are, to be sure, some few hardy kinds, and among them the Picotees figure largely, which will answer very well in the open border, with a slight covering in winter.

But to have a good variety of the best Carnations, they cannot be grown otherwise than in pots.

And are they not more truly worthy of this care than most of the poor starved things that figure among green-house plants? Half the care bestowed at the present day, by the numerous admirers of the Fuchsia, would afford us the most charming and perfect Carnations.

Well then, I must commence by saying, that as good a soil as need be for this plant is made by observing the following proportion, viz., two barrowfuls of fresh loamy soil, (or, what is much better, the soil made by rotting down soda,) two barrowfuls of thoroughly rotted stable manure—that from a spent hot-bed is excellent, and one barrowful of clean sand. Mix the whole very thoroughly together, throwing out the lumps, but not sifting it. You may, if you please, sift a small quantity to place on the top of the pots.

I shall speak of the propagation of this plant directly. I am now supposing the layers to have rooted sufficiently to be taken off, which they usually are about the first of September. You must then separate the layers from the old plant with a knife, lift them with a transplanting trowel, trimming off carefully any decayed or broken parts, and pot them in the soil already described, in half-pint pots, one plant in each pot. Use bits of charcoal for the drainage—in other words, for covering the hole in the bottom of the pot.

The pots should all be placed together, in a cool and rather sheltered position, where they can be shaded for ten days. The plants must be pretty liberally supplied with water from this time till the middle of October, when they will be well established in the pots.

Next, for their winter quarters. This, though simple enough, is yet a matter of great importance; for unless it is carefully attended to, you may lose your whole stock in one winter's day.

The best way of keeping the Carnation through the winter, is in a common hot-bed

frame with glass lights. Such a frame three feet by eight, will hold a great many of these pint pots, each holding a young rooted plant.

Now, the great points in keeping the Carnation through the winter, are, to keep it cool and dry, and in such a condition that it will not be exposed to sudden changes of weather. A severe frost will not hurt it at all, if the plant is kept quite shaded in the frame till it has had time to thaw out *very gradually*.

The most successful mode of keeping this plant in winter is pursued by a friend of mine, and is as follows: He chooses a common hot-bed frame, and sinks it nearly even with the surface of the soil, or at least not rising more than three inches above it, in a cool, rather shaded, *northern* exposure. He takes out the soil in the frame, about ten inches deep, makes the ground quite level and hard with a pounder. Then he cements the floor over with cheap common mortar, made of lime and loam mixed with some coarse sand. This he lays on about an inch or two thick, bringing it up snugly to the sides of the frame all round.

The advantages of this hard mortar floor are great. It keeps the plants quite free from the bad effects of accumulated dampness, which gathers in a common frame when the pots are set on the earth. Hundreds of Carnations die off suddenly in winter from this cause, and the grower is unable to account for it. On the mortar floor they are always dry; besides this, it prevents mice from getting in the frame. These little animals are very fond of Carnations, and will, if they find their way into a collection in winter, soon devour a great number.

The frame being ready, the plants are moved into it about the middle of October, or as soon as the nights become frosty. For some days, or in short till severe weather sets in, the lights need only be put on the frame at night. In the mean time water the plants moderately, as often as they appear dry. As soon as winter commences, shut up the frame with the lights. Upon

the top of these place two layers of matting, and over all lay a large shutter or cover of rough boards.

Here they will remain till the spring opens. I think it best never to open the frame during severe freezing weather. On all fine mild dry days, during the winter, you may admit air freely to the plants, but never the sun. Raise the glass, and replace the shutter for a few hours to keep out the sun's rays. They will need but very little water during the winter, unless the weather is very mild. When, by the pots appearing dry, you observe that they do need it, supply them very sparingly. If they are kept shaded and cool, they will make little or no demand for water during the winter.

If these directions are followed, you will find your plants in excellent healthy condition at the opening of the spring. When this season comes round, admit air at the beginning plentifully, but do not let in the sun all at once, only by degrees, till the plants are able to bear it.

At the beginning of April, they must all be shifted into larger pots for blooming. The soil that should be used, I have already spoken of. I will only add, that in potting the Carnation, *the earth should always be pressed down quite firmly* around the plant with the fingers. Experience has proved to me that this is quite an essential point.

In July you will have the satisfaction of seeing your plants come into full bloom—and a sight of rare and wonderful beauty it is, if the collection is a large one. Before this time, you will have tied up every strong flower stem to a neat small stake, and you should have taken the precaution to pinch off all superabundant, weak or unnecessary buds, leaving only the strongest. The latter will then have all the juices of the plant to support them, and will come out surprisingly rich and perfect.

IV. ITS PROPAGATION.

About the middle or last of July, the beauty of the bloom will be over. Now commences the layering, to furnish a stock

of plants for the next season. New varieties of the Carnation are produced from seed; but this is a tedious process, as only one seedling in ten thousand ever turns out a first rate flower. Layering is, therefore, the mode adopted for continuing all sorts of established reputation.

It is indeed quite a simple process. The strongest and longest of the young shoots (called the *grass*) are selected. Make a small furrow in the loosened soil of the pot; bend down the shoot to find what part will be covered in the furrow; then carefully strip off the leaves of the portion to be buried. With a sharp penknife make the tongue or incision, commencing just below a joint, halving the stem by an oblique cut upward, the incision extending about an inch. Next, with a small hooked peg, fasten down the shoot in the furrow, burying the incision not more than three-fourths of an inch. Cover the whole with a little fresh soil, which should be pressed gently around the shoot, holding the top of the shoot that remains out in a nearly upright position. Give it a little water, and the whole is complete. Every evening afterwards, the layers should be regularly moistened. In about six weeks they will be ready for potting, as I have already described. The old roots, after layering, are worth little, and are usually thrown aside.

Whoever will follow these directions, cannot fail of success in growing all the finest varieties of this very choice plant.

The Picotees, generally, as I have already remarked, may be grown with very good success in a border in the open air; and I may add a few of the hardier Flakes and Bizarres. The soil may be the same as I have already pointed out for the culture in pots. In this case, I have usually found it best to allow the layers to remain attached to the parent plant all winter—enclosing the whole bed with a rough frame, a few boards and branches of evergreens thrown over the top. In the spring, a new bed should be prepared, and the layers taken off and transplanted into it.

AMONG THE TREES.

BY C. N. BEMENT.

AMONG the studies of trees we cannot fail to be impressed with their importance, not only in the beauty of landscape, but also in the economy of life; and we are convinced that in no other point of the vegetable creation has Nature done so much to provide at once for the comfort, the sustenance, and the protection of her creatures. They afford the wild animals their shelter, and their abode, and yield them the greater part of their subsistence. They are indeed, so evidently indispensable to the wants of man and brute, that it would be idle to enlarge upon the subject, except in those details which are apt to be enveloped. In a state of nature man makes direct use of their branches for covering his tent, and he thatches it with their leaves. In their recesses he hunts the animals whose flesh and fur supply him with food and clothing, and from their wood he obtains the implements for capturing and subduing them. Man's earliest farinaceous food was likewise the product of trees; for in his nomadic condition he makes his bread from the acorn and the chestnut; he must become a tiller of the soil before he can obtain the products of the cereal herbs. The groves were likewise the earliest temples for his worship, and their fruits his first offerings upon the divine altar.

As man advances nearer to civilization trees afford him the additional advantage which is derived from their timber. The first houses were constructed of wood, which enables him by its superior plastic nature, compared with stone, to progress more rapidly in his ideas of architecture. Wood facilitates his endeavors to instruct himself in art, by its adaptedness to a greater variety of purposes than any other substance. It is, therefore, one of the principal instruments of civilization which man has derived from the material world. Though the most remarkable works of the architect are constructed of stone, it was wood that afforded man that early practice

and experience which initiated him into the laws of mechanics and the principles of art, and carried him along gradually to perfection.

It is in these relations, leaving their uses in economy and the arts untouched, that we would now speak of trees. We would consider them as they would appear to the poet and the painter as they are connected with scenery, and with the romance and mythology of Nature, and as serving the purposes of religion and virtue, of freedom and happiness, of poetry and science, as well as those of more taste and economy. We are persuaded that trees are closely connected with the fate of nations, that they are the props of industry and civilization, and that in all countries from which the forests have disappeared the people have shrunk into indolence and servitude.

Though we may not be close observers of Nature, we cannot fail to have remarked that there is an infinite variety in the forms of trees, as well as in their habits. By those who have observed them as landscape ornaments, trees have been classified according to their shape and manner of growth. They are round-headed, or hemispherical, like the oak and the sycamore; pyramidal, like the pine and the fir; obeliscal, like the arborvitæ and lombardy poplar; drooping like the white elm and the weeping willow; and umbrella-shaped like the palm. These are the natural or normal varieties in the form of trees.

Of the round-headed trees that extend their branches more or less at wide angles from their trunk, the oak is the most conspicuous and the most celebrated. To the mind of the American, however, the oak is far less familiar than the elm as a way-side tree; but in England this tree, which formerly received divine honors in that country, is now hardly less sacred in the eyes of the inhabitants on account of their familiarity with its shelter and its shade, and

their ideas of its usefulness to the human family.

It is remarkable for the wide spread of its branches and its broad shade—for its suggestiveness of power, and consequent expression of grandeur. It is allied with the romance of early history; it is celebrated by its connexion with the religion and religious rite of the Druids—with the customs of the Romans, who formed of its green leaves the civic crown for their heroes, and who planted it to over-shadow the temple of Jupiter; and many ancient superstitions give its name a peculiar significance to the poet and the antiquary. From its timber marine architecture has derived its most important aid, and it has thereby become associated with grandeur of commerce and the exploits of a gallant navy, and is regarded as the emblem of naval prowess. The oak, therefore, to the majority of the human race, is beyond all other trees, fraught with romantic interest, and invested with classic and historical dignity.

The American continent contains a great many species of oak in its indigenous forest. Of these the white oak bears the most resemblance to the classical tree, in its general appearance, in the contorted growth of its branches, and in the edible quality of its fruit. But the red oak, the most northerly species, exceeds all others in size. No other attains so great a height, or spreads its branches so widely or surpasses it in regularity of form. As we advance South, the white oak is conspicuous until we arrive at North Carolina, where forests and waysides exhibit the beautiful evergreen oak, which with its slender undivided leaves, the minute subdivisions of its branches, and its general comeliness of form would be mistaken by a stranger for a willow. A close inspection, however, would soon convince him that it has none of the fragility of the willow. On the contrary, it is the most noted of all the genus for its hardiness and durability, being the identical Live Oak which has supplied our navy with the most valuable of timber. At the South the

Evergreen Oak is a common way-side tree, mingling its hues with the lighter green of the Cypress and sombre verdure of the Magnolia.

The oak exceeds all other trees, not only in actual strength, but also in that outward appearance by which this quality is manifested. Hence it is regarded as the Monarch of trees, surpassing in all those qualities that indicate nobleness and capacity. It is the emblem of strength, dignity, and grandeur: the severest hurricane cannot overthrow it, and by destroying some of its branches, leaves it only with more wonderful proofs of its resistance.

THE CHESTNUT

Is one of the most majestic trees in the American forest, remarkable, like the oak, for its broad extent of shade. In some part of the country it is one of the most common standards in the field and pasture, having been left unmolested on account of the value of its fruit and the comparative inferiority of its timber. The foliage of this tree is dense and flowing and peculiar in its arrangement. The leaves are clustered in stars, of from five to seven, on short branches that grow from one of greater length. Hence, at a little distance, the whole mass of foliage seems to consist of tufts, each containing a tassel of long pointed leaves, drooping divergently from a common centre of the leaves in the same manner, and by their silvery green lustre giving pleasing variety to the darker verdure of the whole mass.

THE HICKORIES.

There are few vegetable productions of any country which unite so many valuable properties as our hickories or walnuts. Entering as they do so largely into the composition of our woods and forests they contribute to adorn our landscape scenery, supply us with a delicate condiment in their fruit, and from the wood they add very essentially to our domestic comfort, and furnish a material of the highest utility in various arts and manufactures. The prodigality with which it has been applied to

these various purposes has had the effect of rendering the above stores of these valuable trees comparatively scarce of late years, as might be expected, and we may have ere long to lament the extermination of most of the kinds unless some measures or means are resorted to of reproducing them, or a greater degree of economy should be employed in their consumption.

The hickories are valuable timber trees, with large compressed leaves, having from five to fifteen, but usually not more than eleven leaflets. Its fruit is a large roundish nut, the husk of which opens, partially or wholly, of itself by four seams.

The hickory is peculiar to America. The nearest approach to it is the European Walnut. In many respects it is amongst the most valuable of our trees. It is always a stately and elegant tree; and the several species exhibit so great a variety of appearance and foliage, that they have almost the interest of a forest. Few trees contribute so much to the beauty of the woods in the autumn. The colors of all at that season are rich, and each species has its own. The smoothness, closeness, and hardness of the grain of the wood give it great value in the arts, and for fuel it holds unquestionably the first place. The fruit of some of the species, even in the unimproved condition of its forest state, vies with the best of foreign nuts, and it is destined, doubtless to be greatly improved by the resources of cultivation.

The Pig-nut Hickory is one of the largest trees in the United States, and is most abundant along the Atlantic States. Its nut is very small, and the shell so hard and thick as to render it of no value. The wood, however, is extremely valuable, as it is considered by manufacturers to be the hardest of the hickory tribe, and strongest, and is in much request for such uses as require strength and tenacity. It is much used for screws, cogs of mill-wheels, rake-teeth, axles, and handspikes, for which purpose it is particularly well adapted. Hoops for casks and barrels are always made with us of the young hickory, and it is beyond calculation what quantities are consumed for this object and exportation. For fuel there is no wood which approaches it, and the unlimited consumption of it for this purpose, together with the destruction of the young saplings for hoops is rapidly causing its extermination. Very little attention, as yet, has been paid in cultivating it, though for the sake of preserving its timber, and the excellence of its fruit, it deserves the care of proprietors of lands. They can easily be raised from seed, but it is necessary to plant the nuts while fresh, and soon after they have fallen from the tree, they otherwise lose their power of germination. It is very difficult to increase them by transplanting, as they seldom survive their removal.

CITY MARKETS.

THE condition of our markets, the facilities afforded for daily providing, the supply and quality of food, and the cost, are matters of greatest importance to every householder in our city. The economical question, at any time, is of larger magnitude than any of our readers, who have not given careful attention to the subject, could possibly imagine. The amount expended in any year for the products of our farms and gardens,

is enormous, and the present high prices of every article that enters into the household consumption, carry up this amount to a startling figure.

It is true that the first cost of these products—the price paid to the producer—is less in this country than in Europe, and for this reason the expenses of living here, where the quality and amount of food is the same, are less than in the European cities.

But the difference lies in this. As our system of markets is managed, or rather mismanaged, by the city authorities, nearly all our supplies come to us through the hands of forestallers and middle-men, who combine to take intolerable advantage of the consumer, and to charge enormous profits. While in every European city the authorities are exerting themselves to lessen as much as possible the price of food, especially to the industrial and laboring classes, our authorities are throwing every obstacle in the way of cheap and convenient markets, and they manage those we have entirely in the interests of corrupt officials and political hangers-on.

In the early history of our city, the markets were regarded and intended to be managed for the benefit of house-keepers who buy for their own consumption; and the Common Council, in 1735, passed an ordinance forbidding those who buy to sell again to enter any of the city markets till afternoon, so that housekeepers could provide themselves daily, during the morning at first hands; and a penalty was inflicted upon every one who violated this ordinance. But we live and suffer under a very different order of things.

And our country readers who send us their grain and cattle, their vegetables and fruits, and the products of the dairies and poultry yards, will bear in mind that they are, in no sense gainers, from the enormous profits we pay for the daily supplies of our tables. These profits go to enrich a class which stands between them and us,—a class which is of no advantage to either, and would as readily and unscrupulously overreach and cheat them as ourselves.

It is not so in Europe. Paris has twelve times the market facilities of New York and Brooklyn. In the Paris markets \$85,000,000 worth of fresh meats, poultry, game, vegetables, fruits, butter, eggs, are disposed of annually. The first cost of these articles in New York is eight and a half per cent. less than the first cost of the same articles in Paris; yet what is there

valued at \$100, is retailed to the consumer at \$124, an advance of twenty-four per cent., while in New York, the same articles costing but \$88, are retailed to the consumer for \$184.80, a difference of \$75.68 in favor of Paris on every \$100 worth of produce.

If we apply this difference to the whole amount of such articles required for the supply of New York for the year 1863, its magnitude will swell almost beyond comprehension. During that year there were supplied to New York, and slaughtered in the city, 306,179 beefeves, cows and calves, 519,316 sheep, 1,101,647 swine, the aggregate dressed weight of which was 379,124,647 pounds. There were also required and furnished 54,160,671 pounds of *dressed meats*, the aggregate first cost of all which was \$35,081,184. The value of poultry, game, fish, fruits, vegetables, and other perishable food was quite as much, and probably more than of meats, amounting altogether to over \$70,000,000, and for which the consumers in New York pay over \$147,000,000. For the same amount of food the consumers in Paris would have paid only \$86,800,000, a saving to them of \$60,200,000, upon the supplies of one year. Startling as this is it is absolutely true, easily demonstrated, and beyond all contradiction.

It is well known that the up-town consumers of this city pay a much higher rate for all market articles of domestic use than the people of Baltimore, Philadelphia, and other chief cities. It is stated on good authority that the average difference between Philadelphia and New York is fully forty-five per cent. The value of market articles, in first hands, is estimated at \$70,000,000. The citizens of Philadelphia save forty-five per cent. of this, owing to their numerous, large, and convenient markets. Divide this saving among our million of population, and it amounts to \$31.50 each year, to every man, woman and child in the city. This shows that New York, and especially her industrial classes, are carrying a burden which is fast becoming intolerable.

It is time, then, we think, that this subject is taken in hand by the "Citizens," or some other association. Convenient up-town markets should be established, and the whole system of abuses by middle-men and forestallers should be swept away. The country people should have the opportunity to sell their fresh, wholesome, cheap produce directly to the citizens. A fair and honest competition would then prevail in the place of the combinations which now con-

trol prices. When we can buy at first hands, then consumers will reap the advantages of abundant crops. As it is, prices never fail to go up, when there is a scarcity of supply, or a depreciation of the currency, or any other cause to enhance cost, but they rarely fail to *stay up*. It is the business of the middle-men to monopolize the traffic, and see to it that prices never go down, however cheap the first cost of food may be.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. WOODWARD, 37 Park Row, New York.

THIS number of the *Horticulturist* closes the Nineteenth Annual Volume, and with it expires the subscriptions of many of our readers, all of whom we hope to hear from at an early day, and we hope each one will send, with his own name, one or more additional new subscribers. We can promise all, that the volume for 1865 will be well worthy of their attention. The leading article for the January number will be from the author of "My Farm of Edgewood," and articles from the same pen will appear at frequent intervals. Mr. Edward S. Rand, Jr., of Boston, author of "Flowers for Parlor and Garden," will prepare for us an article for each number of the new volume. Mr. Edmund Morris, author of Ten Acres Enough, Mr. A. S. Fuller, author of the Grape Culturist, and others, comprising the best practical talent in the country will write regularly for our columns. Other arrangements have been completed by which the general contents will be sound, able and practical, and illustrations will not be spared whenever necessary. We mean to make the twentieth volume the best of the series; we have the

talent, ability and intention to do so, and whatever we undertake to do we mean to succeed in.

WE desire to call the attention of our readers to the fact that we are now the New York Agents for all the Agricultural and Horticultural Papers and Periodicals heretofore found at Mr. C. M. Saxton's, of 5 Barclay Street, N. Y. *His list of subscribers to the Horticulturist will hereafter be supplied from this office, and all renewals should be sent here.* Mr. Saxton has gone into business at St. Louis, and will act for us in extending our Western circulation. Those of our readers who wish to add to their list of Papers on rural matters, can be supplied from this office with the *Country Gentleman, Cultivator, Gardener's Monthly, Hovey's Magazine of Horticulture, Rural New Yorker, and American Stock Journal*, and all papers on similar subjects, at the regular subscription rates. We also keep on hand or mail post paid to any address on receipt of publishers' prices every book published on subjects relating to Agriculture, Horticulture, Landscape Gardening, Rural Architecture,

&c. Prices will be furnished for any book not on our advertised list.

AMONG THE GRAPES.—The fruit farm of Mr. Knox is situated on the south slope of Coal Hill, about a mile south of the Monongahela Bridge, and the way thereto, by a winding road which ascends the hill, is like the place the darkies sing about—a hard road to travel, as we have proved on divers occasions. It is a right fruit soil, being very strong in texture and composition, well up from bottom waters, and properly exposed to the sun. Upon this place fruits ripen early for their latitude; we visited here early in August of this year, and at that time tasted ripe Hartford Prolific, Delaware and Concord grapes from the main vineyard.

To begin with the earliest of the staple varieties, we name the Hartford Prolific, which is hardy, vigorous, and quite productive, and because of its earliness is a very profitable fruit for market, though the quality is not first-rate.

Next in season to the latter come the Delaware, Concord and Union Village. The Delaware sells entirely upon its merits. The fruit bunches were very fair, and covered the trellis with their amber clusters. The Union Village here grows to a very large size, and on account of its great size and superb style sells higher by the eye than any other variety upon the counter. The Concord is after all the great staple mid-season grape of Mr. Knox's tables. Of all the customers which we saw constantly coming in for fruit, three out of every four, (if not more,) called for the Concord, though it was side by side with the Delaware upon the same table and sold for the same price. In Mr. Knox's vineyard the Concord ripens a delicious melting pulp, a sweet and plentiful juice, with just enough of a strong aromatic smack to please the palates of people who eat with their mouths. The epicure would choose the Delaware for its delicate saccharine, dainty spirit and thin skin, and the well ripened

Catawba for its brilliant and positive bouquet, but people of good stomachs and good appetite call for the Concord, and there is no use in questioning their taste. The Concords upon Mr. Knox's trellises were a sight to behold; the vines cover the entire trellises from a foot above ground to eight feet in height, and upon his oldest vines thus trained there was a wall of purple clusters from the bottom to the top.

For an amber grape, next to the Delaware is the Diana, which makes a vigorous growth and produces very well. As a table grape the Diana is not equal to the Delaware in fineness or the Catawba in sprightliness, but as a late keeper it is superior to both. Mr. Knox says if he could have but one grape for market purposes he would choose Concord; for the second, Delaware; third and fourth, Hartford Prolific and Union Village; fifth, Diana.

The Anna is a fine white (or green) grape—indeed a sample which we took from Mr. Knox's vineyard and presented to one of our most critical pomologists in Cleveland was promptly pronounced the best specimen of the Anna he had ever tasted, and the only specimen he had ever tasted that was perfectly ripe. For amateur purposes no vineyard is complete without the Elsinboro. The bunches are long and open, the berries smaller than the Delaware, the color a deep blue-black like wild frost grapes, but with a gamy pith and spirit that tickle the palate and tempt the eater to gobble his crop full. For a person who is right fruit hungry we commend the Elsinboro. The Herbeumont upon Mr. Knox's grounds is monstrously prolific; great solid bunches, ready to burst with rich red juices, hanging in ropes of clusters all over the vines. The Herbeumont is too tart for a table grape, and the vine requires to be laid down and covered in winter.

We have thus gone over the leading varieties of Mr. Knox's staple crop; he has many others, too well known to need comment, or too little known to have acquired a place in pomological popularity; and now

we come up out of the vineyard with the stains upon our lips and upon our hands to show how like a cannibal we have done battle in this slaughter of the Vitian gods, or, (shall we confess to a better interpretation in our own mind,) how with gentle violence we over pressed the nectared lips of the willing goddesses who yield their ripened virgin life to give us a foretaste of the immortal. There now, we are getting sentimental again and will stop this talk lest some one should say we are full of new wine, when the truth is we are only full of ripe grapes.—*S. D. Harris, Ed. Ohio Farmer.*

A MONSTER FRUIT CAN.—The Cleveland *Herald* has the following account of a novel structure now going up in that city : "The building is eighty feet by forty-four and a half, the side walls being twenty-two feet high. The front of the building, occupying about one-fourth of the whole size, is to be used as a store, or ordinary warehouse, and will be constructed in the ordinary manner. The remainder of the building is to be walled entirely with iron, perfectly tight, and divided from the front part by similar walls. Within this enclosure is built another building, also of iron, with its walls about three feet distant from the walls of the outer building. The inner building is divided by iron walls into several smaller rooms, each of them being perfectly gas proof. The ground beneath the building was first packed with wet earth, the beams laid in coal tar, and the surface of the earth will be covered with coal tar. The space between the ground and flooring will then be packed tight with sawdust, as will be the space between the outer and inner walls, and the hollow space in the iron lined doors. Overhead will be packed tightly with ice, which will be congealed, by a peculiar process, into a solid mass of hard ice, seven feet thick.

"When all is completed the small rooms will be filled with fresh fruits, such as apples, grapes, &c., the oxygen of the atmosphere withdrawn by chemical process, and

the room hermetically sealed. The vivifying elements being withdrawn, and the temperature being kept down by the peculiar process to about thirty degrees, the fruit remains perfectly fresh, until the season for fresh fruit having passed away, a high market is open for them, when the chambers are opened as wanted, and the fruit taken out as fresh as when first gathered,

A CHINESE GENTLEMAN'S HOUSE.—He first took us to his country house, now uninhabited. It was the perfect residence of a Chinese gentleman. There was a very large garden with bamboo hedges and large fish tanks, edged with walls of blue brick, and perforated tiles. His pigs were in admirable condition, and as beautiful as the Prince Consort's at Windsor. About the grounds were nutmegs, mangosteens, plantains, cocoanuts, dariens, and small creepers, trained into baskets and pagodas. Inside the house the drawing room had doors sliding across circular openings. We then went on to this gentleman's private residence, entered by a Chinese triumphal gate. He tells me he has ten miles of carriage road round his estate. It is on a fine, undulating tract of land reclaimed from the jungle, and laid out with rare taste. In the outskirts a tiger killed a man the other day. In his garden I found Jacko, living in a cane cage, next door to a porcupine; there were also some rare birds. Further on some very small Berhmin bulls, a Cashmere goat, and a family of young kangaroos. There were all sorts of unknown beautiful flowers placed about in enormous Chinese vases.

Here I first saw the tea plant growing. It is of the Camellia tribe, three or four feet high, perhaps, and bears a small white flower, like an ordinary rose. Also I was shown the "moon flower," a kind of rounded convolvulus that only opens at night. There was a bower of "monkey cups," the pitcher flower which collects water, and from which Jacko refreshes himself in the jungles. The fan palm produced water by being pierced with a penknife, of a clear, cold quality.

Several minute creepers were trained over wire forms to imitate dragons, with egg shells for their eyes; and there were many of the celebrated dwarf trees—the first I had seen—little oaks and elms about eighteen inches high, like small, withered old men. The house here was superbly furnished in the English style, but with lanterns all about it. At six the guests arrived—mostly English—all dressed in short white jackets and trowsers. The dinner was admirably served, in good London style, and all the appointments, as regarded plate, glass, wines, and dishes, perfect. The quiet, attentive waiting of the little Chinese boys deserved all praise. After dinner we lounged through the rooms decorated with English prints of the Royal family, statuettes, curios from every part of the world, and rare objects in stone and china.—*Chinese Letter.*

LANDSCAPE GARDENING.—Mr. H. H. Hunnewell has given the sum of \$2,000 to the Massachusetts Horticultural Society as a fund for the encouragement of the art of landscape gardening. Mr. Hunnewell, in his letter to the society, hopes the money will be an acceptable addition to the means of the society, “in meeting a want not now supplied, and will tend to the dissemination of a more correct and refined taste for elegant rural improvements than now exists, in laying out and planting our country places, which, he fears, are often the result of chance rather than any well directed plan.”

AUTUMN LEAVES.—Chromo Lithographers, with artistic pencil and inks, endeavor to imitate the beautiful colors and tints of the dying foliage, and those who buy, exclaim in ecstacies, “How beautiful.” But how dull and tame they look to one who can every year see thousands of acres of uplands and lowlands glowing in the sunshine, fresh tinted and colored by the inimitable hand of Nature. To look along the slopes of hills and valeys and see nothing but a

rolling sea of green, purple and gold, is a sight most beautiful, upon which to feast the eye and soul. It is a feast that kings seldom sit to, and one that we regret so few enjoy. During the next three or four weeks our foliage will present the most beautiful appearance imaginable, changing slowly from green to golden yellow, and then passing away almost in a day. We notice the past week the appearance of the first changes on the maples lining the hill sides; one a deep brilliant scarlet red, and another a soft pale yellow. Another week or two and the forests of the whole country will wear a holiday dress, reminding us of the flight of time and the approach of winter.—*N. Eagle, Pa., Sept.*

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ONEIDA COMMUNITY.—In the notice, last month, of the Preserved Fruits put up by this Community, the statement of the number of members in the family, and the number of acres owned by them, was not correct. We give it now from the “Circular,” a weekly paper published by a branch of this Community at Wallingford, Conn.

“The present number in the family at Oneida is about two hundred and thirty. They own about five hundred and fifty acres of land. It can hardly be said at present that Horticulture is their principal pursuit, though it is a leading business. For some years past their principal pursuit has been manufacturing. Next to this has been fruit-growing, and after that general farming. In

connection with fruit-growing, fruit-preserving is gradually advancing to the position of a leading business, and we have no doubt the artists in that department will continue to merit the praise, that 'whatever they do, they do well.'

The Community have opened a place of business at No. 40 Reade Street, in this city, for the disposal of their products and manufactures, and when we are in want of anything they have to dispose of, shall give them a call.

BINDING.—We bind all volumes of the *Horticulturist* at this office, in any style required. Volumes for 1864 in uniform cloth bindings, will be exchanged for the numbers, if in good order, and without delay, for Seventy-five Cents each. Uniform cases or covers for any volume or year, in cloth will be sent, post paid, to any address on receipt of forty cents, these can be put on by any binder.

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GRAPE VINES—Description of stock of Vines for sale at Iona Island, with some account of our four best hardy kinds. C. W. Grant, Iona, near Peekskill, N. Y.

This includes the Iona to which was awarded the \$100 prize offered by Horace Greeley.

WHOLESALE Catalogue of Fruit, Evergreen and Ornamental Trees, Shrubs, Stocks, Boxes, &c., for Autumn of 1864 and Spring of 1865, offered for sale by John Saul, Washington, D. C.

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Circular. The Honey Locust for Hedges.

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THE ATLANTIC MONTHLY.—The November number of this valuable periodical contains as usual articles of great merit and value, the last of the House and Home Papers is specially valuable, and is worth reading by every one who has, and every one who contemplates having a home, we are glad to know that Messrs. Ticknor & Fields will soon publish all of the House and Home Papers in one volume. The price of the Atlantic Monthly is Four Dollars per annum, and is a first class investment for all who wish for sound, instructive and interesting reading matter.

THE AMERICAN AGRICULTURIST,—a monthly Journal for the Farm, Garden and Household, published by Orange Judd at 41 Park Row, New York, for One Dollar and Fifty cents per annum after Dec. 1, 1864. This paper has the largest circulation in the country, among Agriculturists, ranging somewhere in the neighborhood of 100,000 copies. The matter is all practical, fully illustrated, and treats on all subjects interesting to those who cultivate the soil.

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A NEW MAGAZINE—Messrs. Ticknor & Fields of Boston, announce that they will shortly begin the publication of the new illustrated juvenile magazine entitled "Our Young Folks," for Boys and Girls, to be published monthly, and conducted under the editorial charge of J. T. Trowbridge, Gail Hamilton, and Lucy Larcom, with a staff of contributors embracing many of the best known and most popular writers of juvenile works in America and in England. The very high standard to which these publishers have brought the "Atlantic Monthly," is a sufficient guarantee that they will do well whatever they undertake to do, they evidently intend to publish the most able and valuable Juvenile Magazine

in the country, and from their well-known reputation and ability, we should have no hesitation in subscribing at once, without caring to see a specimen copy in advance. The price will be Two Dollars per annum, with the "Atlantic" Five Dollars per annum.

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Fig. 1.



Fig. 2

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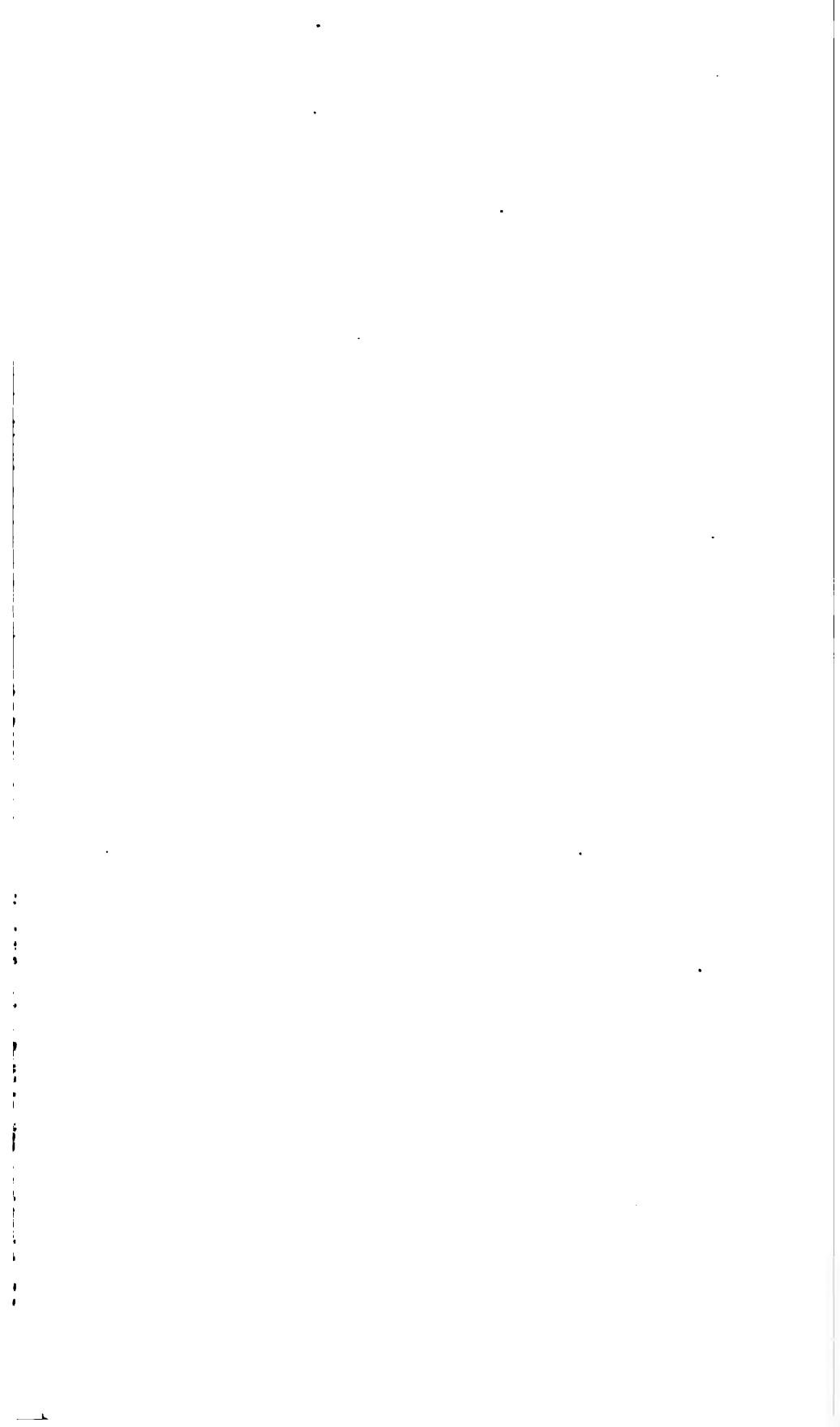
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THE
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POMOLOGISTS AND COMMON PEOPLE.

I do not know that the Horticulturists proper, are the best advisers of a man who wishes—as so many do in these times—to establish his little home in the country, and to make it charming with fruits and flowers and all manner of green things. I think that the professional tastes or successes of one devoted to Horticulture might lead him into a great many extravagances of suggestion, in the entertainment of which, the plain country liver—making lamentable failures—would lose courage and faith. The Pomologists may indeed say that there is no reason to make failure if their suggestions are followed to the letter, and the proper amount of care bestowed. This may be very true; but they do not enough consider that nine out of ten who seek the country, and its delights of garden or orchard, can never be brought to that care and nicety of observation, which with the devoted Horticulturist, is a second nature.

Most men go to the country to make an easy thing of it. If they must commence study of all the later discoveries in vegetable physiology, and keep a sharp eye upon all new varieties of fruit—lest they fall behind the age; and trench their land every

third year, and screen it—may be—in order to ensure the most perfect communition of the soil, they find themselves entering upon the labors of a new profession, instead of lightening the fatigues of an old one. Any thorough practice of Horticulture does indeed involve all this; but there are plenty of outsiders, who, without any strong ambition in that direction, have yet a very determined wish to reap what pleasures they can out of a country life, by such moderate degree of attention and of labor as shall not overtax their time, or plunge them into the anxieties of a new and engrossing pursuit.

What shall be done for them? To talk to such people—and I dare say scores of them may be reading this paper now—about the comparative vigor of a vine grown from a single eye, or a vine grown from a layer, or about the shades of difference in flavor between a Vicomtesse berry and a Triomphe de Gand—is to talk Greek to them; it is as if a druggist were to talk about the comparative influences of potash and of some simple styptic upon an irritated mucous membrane, to a man who wants simply—something to cure a sore throat.

It is the aim of the Horticulturist to push both land and plants to the last limit of their capacity—to establish new varieties—to provoke nature by incessant pinchings into some abnormal development; whereas the aim of the mass of suburban residents is to have a cheery array of flowers—good fruit and plenty of it, at the smallest possible cost. If indeed the latter have any hope of winning what they wish, by simple transfer of their home from city to country, without any care or cost whatever, they are grossly mistaken. If a mere, bald love of fruit-eating without any love for the means of its production—calls a man to the country, I would strongly advise him to stay in town, and buy fruit at the city markets; and the man who goes into the country merely to stretch his legs, I would as strongly advise to do it on Broadway, or in bed. Nature is a mistress that must be wooed with a will; and there is no mistress worth the having, that must not be wooed in the same way.

But the distinction remains which I have laid down between the aims of the Pomologists and of the quiet country liver. And I am strongly inclined to think that the former are a little too much disposed to sneer at the simple tastes of the latter. There is a sturdy professional pride that enters into this, for something. I have before now been thrown into the company of breeders of blooded stock who would not so much as notice the best native animals—no matter how tenderly cared for, or how assiduously combed down; and yet a good dish of cream most people relish, even if the name of the cow is not written in the Herd-books. Of course that nice discrimination of taste which enables a man to detect the minute shades of difference in flavors, is a thing of growth and long culture, and every man is inclined to respect what has cost him long culture. But if I smack my lips over the old Hovey, or a mahogany colored Wilson, and stick by them, I do not know that the zealous pomologist has a right to condemn me utterly, because I do not root up my strawberry patches and

plant Russell's Prolific or the Monitor in their place. It is even doubtful if extreme cultivation of taste does not do away with a great deal of that hearty gusto with which most men enjoy good fruit. The man who is all the summer through, turning some little tid-bit of flavor upon the tip of his tongue, and going off into fits of rumination upon the possible difference of flavor between a Crimson-Cone when watered from an oak tub, and a Crimson-Cone when watered from a chestnut tub, seems to me in a fair way of losing all the appreciable and honest enjoyment of fruit which he ever had in his life.

There live a small race of pimple-faced men about the London Dock Vaults, whose professional service it is to guzzle small draughts of Chateau Margaux or of rare Port, which they whip about with their tongues and expend their tasting faculties upon, with enormous gravity: but, who in the world supposes that these can have the same appreciation of an honest bumper of wine which a quiet Christian gentleman has, who sits down to his dinner with a moderate glass of good sound Bordeaux at his elbow?

Outsiders may, I think, find a little comfort in this, and take courage in respect of their old Hovey patches—if only they will keep them clean and rich.

But I have not said all this out of any want of regard for Horticulture as an art, demanding both skill and devotion; nor have I said it from any want of respect for those pomologists who are boldly leading the van in the prosecution of the Art; but I have wished simply to clear away a little platform from which to talk about the wants of humble cultivators, and the way in which those wants are to be met.

And here my old question recurs—what shall be done for them?

To give my reply definite shape, I picture to myself my old friend Lackland, who has grown tired of thumping over the city pavements, who has two or three young children to whom he wishes to give a free tumble on the green sward, and who has an intense desire to pick his grapes off his own

vine, instead of buying on Broadway at forty cents the pound. He comes to me for advice.

"My dear fellow," I should say, "there's no giving any intelligible advice to a man whose notions are so crude. Do you want a country home for the year, or only a half home for six months in the year, from which you'll be flitting when the leaves are gone?"

"To be sure," says he, "it's worth considering. And yet what difference could it make with your suggestions? Once established, I could determine better."

"It makes this difference:—if you propose to establish a permanent home for the year, you want to provide against wintry blasts; you don't want a hill-top where a Northwester will be driving in your teeth all November; you want shelter; and you want near walks for your children through the snow-banks to school or church; and you don't want the sea booming at the foot of your garden all winter long. If it's only a summer stopping place you have your eye upon, all these matters are of little account."

"Suppose we make it a permanent home," says Lackland, "how much ground do I want to grow all the fruits and vegetables I may need for my family?"

"That depends altogether upon your mode of culture. If you mean to trench and manure thoroughly, and have good soil to start with, and keep it up to the best possible condition, a half-acre will more than supply you."

"Call it two acres," says he, "and what shall I plant upon it?"

What shall a man plant upon his two acres of ground, on which he wishes to establish a cozy home, where his children can romp to their hearts content, and he—take a serene content in plucking his own fruit, pulling his own vegetables, smelling at his own rose-tree and smoking under his own vine? If he goes up with the question to some high court of Horticulture he comes away with a list as long as my arm—in which are *remontants* that must be strawed

over, vines that must be laid down, vegetables that must be coaxed by a fortnight of forcing, rare shrubs that must have their monthly pinching, monster berries that must have their semi-weekly swash of guano water, and beds of hyacinths that after wilting of the leaves must be dug, and dried, and watched, and put out of reach, and found again, and replanted.

And my friend Lackland reporting such a list to me sees a broad grin gradually spreading over my face.

"You think it a poor list, then?" says he.

"I beg your pardon; it's a most capital one; there are the newest things of every sort in it; and if you cultivate them as they ought to be cultivated, you'll make a fine show; they'll elect you member of a Horticultural Society; Heaven only knows but they'll name you on a tasting committee."

"That would be jolly," says he.

"And you'll need plenty of bass-matting, and patent labels, and lead wire, and a box of grafting instruments, and brass syringes of different capacities, and gauze netting for some of your more delicate fruits, and porcelain saucers to float your big gooseberries in, and forcing beds, and guano tanks, and a small propagating house, and a padlock on your garden, and a Scotchman to keep the key at fifty dollars a month, and a fag to work the compost heaps at twenty-five more."

"The Devil I will!" he says.

"Don't be profane," I should say, "or if you needs must, you'll have better occasion for it when you get fairly into the traces."

And then—more seriously—"My dear fellow; the list, as I have said, is a capital one; but it supposes most careful culture, extreme attention, and a love for all the niceties of the art—which you have not got. You want to take things easy; you don't want to torment yourself with the idea that your children may be plucking unaware your specimen berries; you don't want to lock them out of the garden. As sure as you undertake such a venture

you'll be at odds with your Scotchman; you'll lose the names of your own trees; you'll forget the hyacinths; your "half-hardy" will all be scotched by the second winter; your dwarf "Vicar" that need such careful nursing and high dressing will dwindle into lean shanks of pears that have no flavor. My advice to you is—to throw the fine list in the fire; to limit yourself, until you have felt your way, to some ten or a dozen of the best established varieties; don't be afraid of old things if they are good; if a gaunt Rhode Island Greening tree is struggling in your hedge row, trim it, scrape it, soap it, dig about it, pull away the turf from it, lime it, and then if you can keep up a fair fight against the bugs and the worms you will have fine fruit from it; if you can't, cut it down. If a veteran mossy pear tree is in your door-yard, groom it as you would a horse—just in from a summering in briary pastures—put scions of Bartlett's, of Winter Nelis, of Rostiezier into its top and sides. In an unctuous spot of your garden, plant your dwarf Duchess, Bonne de Jersey, Beurre Diel, and your Glout Morceau. If either don't do well pull it up and burn it; don't waste labor on a sickly young tree. Save

Edgewood, Dec., 1864.

some sheltered spot for a trellis, where you may plant a Delaware, an Iona or two, a Rebecca, and a Diana. Put a Concord at your south-side door—its rampant growth will cover your trellised porch in a pair of seasons: it will give you some fine clusters even though you allow it to tangle: the pomologists will laugh at you; but let them: you will have your shade and the wilderness of frolicsome tendrils, and at least a fair show of purple bunches. Scatter here and there hardy herbaceous flowers that shall care for themselves, and which the children may pluck with a will. Don't distress yourself if your half acre of lawn shows some hummocks, or dandelions or buttercups. And if a wild clump of bushes intrude in a corner don't condemn it too hastily; it may be well to enliven it with an evergreen or two—to dig about it, and paint its edges with a few summer phloxes or roses. You will want neither Scotchman nor forcing houses for this."

This is the way in which I should have talked to my friend Lackland, who would want to take things easy.

I shouldn't wonder if he were to buy his place of two acres, and make trial. God bless him if he does.

NEGLECTED FLOWERS.

BY EDWARD S. RAND, JR., BOSTON.

We might well be pardoned for supposing that in the floral kingdom there would be entire independence of the dictates of fashion. This is, however, far from the fact; flowers have their days of popularity and of neglect; the favorite of to-day is little cultivated in a few years, and may be succeeded by a plant which, once a well-known inhabitant of the garden, has been for years lost from sight. We can all call to mind flowers which were once popular but are now seldom grown, and which have not lost their popularity from any fault of habit, difficulty

of culture, or lack of beauty in foliage or bloom. The passion for "novelties" aids in consigning many a little gem of a flower to neglect, and is thus productive of a bad effect on floriculture. This demand for what is new, exercised in moderation, is a potent means of progress and improvement; to it we owe many of the finest ornaments of our gardens and greenhouses; for its gratification almost every region of the globe has been penetrated by the "collectors" sent out by national or private enterprise, and the discoveries made have well repaid

the cost. But as an offset to this a "rage" has been created for "novelties" which demands gratification, and the florist must cater to it by supplying new plants to meet the demand. Thus we see in catalogues each year a list of "novelties," often plants imported at great expense, and quite as often perfectly worthless. Another year these favorites of a season are thrust into a "general collection" list, even from that, they soon disappear and in a few years are lost to cultivation, supplanted by other "novelties," or by improved flowers of the same class. This is particularly the case in "bedding plants," as any one may see by comparing a catalogue of the present season with one of a few years since; yet every florist knows that with a few exceptions the varieties of verbena, heliotrope, chrysanthemum, etc., of five years ago were quite as good as those of the present spring, though, perhaps, few would be willing to acknowledge the fact.

This passion has lately been more extensively developed in bedding and stove plants;—in the former little gain has been made, in the latter there has been progress, and great additions and acquisitions have been made to our hot-house collections.

It is rather noticeable that green-house plants and hardy perennials and bulbs have in a great measure escaped, and that in the former most of the new plants have been desirable for general culture.

If florists would prove a plant before they send it out, many plants which are thrown into cultivation would be withheld, but the custom is to import plants with high-sounding recommendations of foreign florists, propagate a large stock, throw all upon the market, and often a purchaser blooms the plant before the original importer.

Many plants suitable for the climate of Europe are worthless with us, and the converse is also true: therefore no plant should be imposed upon the public until we have given it a fair trial in our climate.

There are, however, many plants which recommend themselves to all, and which

have been favorites of years gone by, which have been almost driven from cultivation by plants of inferior merit.

The object of our article is to call attention to a few "neglected favorites," or to plants which are very little known, but which will well reward the florist's care.

TOURNERTIA HELIOTROPOIDES. This is a very ornamental little plant, with some resemblance both to a verbena and heliotrope. It is perennial, native of Buenos Ayres, and, though not hardy in the open air, can easily be wintered in a cold frame. The foliage is neat dark-green, like a verbena—the flowers, in size and shape like a heliotrope, of a bluish lilac color, are produced in large terminal racemes, (so to speak) and flower from bottom to top, new buds being produced in succession, as in the heliotrope. We know of no more effective plant combining so many good qualities for a small bed. The plant is very floriferous, easily propagated by cuttings, or by seed, which is freely produced, of rapid growth, and will bloom freely into November. Plants from seed sown in early spring will begin to bloom in May and continue through the season. The plants should be set at least a foot apart, as they grow rapidly and with great vigor. The only thing to be desired in this lovely little flower is perfume, of which unhappily it is wholly destitute.

MIRABILIS JALAPA. "Four O'clocks."—A plant meriting general cultivation, and a splendid object in the garden from August till killed by the frost. The habit of the plant is branching, the flowers are produced at every joint, and fairly cover the plant. They somewhat resemble a small morning glory, but have a tube varying from one to three inches in length; the colors are red, white and yellow, with all conceivable shades and variations of these colors, all of which are often produced on the same plant, indeed except in itself it is difficult to find any two alike. The habit of the plant is symmetrical and very bushy, the height is about fifteen inches. In dull weather the flowers do not expand, but on clear days

the plant is a mass of bloom most of the time. The flowers abound in honey and are very attractive to butter-flies, moths and humming-birds, which afford us an additional reason for recommending the plant. The culture is simple; sow the seed in pots in a hot-bed; transfer the plants to thumb pots and grow them until all danger of frost is over; turn out into a bed of rich earth one foot apart; they will only require to be kept clear of weeds, and will soon show bloom. When the foliage is blackened by the frost, take up the long fusiform roots and keep them in the cellar like a dahlia. The succeeding spring start these like dahlias and plant out; they increase in size every year, we have had them as large as a peck measure. The plant is a native of the West Indies, and has been in cultivation since 1596. *M. longiflora* is a very singular species from Mexico, with tubes three inches in length. The flowers of all the species are very fragrant.

AGAPANTHUS UMBELLATUS, or "African Lily." This beautiful plant is much neglected, and although generally cultivated is seldom seen in perfection.

All the species are natives of the Cape of Good Hope, and bloom from June to September. The leaves are liliaceous, the roots long, thick and fibrous, the flowers of all the species blue, produced in an umbel terminating a long stout stem. The plant will bloom under any treatment, but careful culture is well repaid by increased size, number and brilliancy of color in the flowers.

As generally grown, it is thrust under the green-house stage in winter, and left to take care of itself until the other plants are turned out in the spring, then it is put on the stage or set out of doors, with no care to re-pot or enrich the earth—it blooms in August—and on the approach of frost is again put under the stage. We have grown this plant most successfully under two opposite modes of culture. It is admirably adapted for summer decoration out of doors, but if planted in the garden seldom blooms. We therefore in early spring set in a tub

made of half a barrel (an oil cask with iron hoops is the best) five plants, the largest in the centre; let the soil be well rotted manure and leaf mould, (the plant is a gross feeder and the soil can hardly be too rich) set the tub out of doors as soon as danger of frost is over and water liberally once or twice a day, as may be necessary; the plants will bloom in August, and also throw off many suckers: let all grow together; in a few years the tub will be filled with a solid mass of roots, then water with weak liquid manure (cow-dung and water is the best) and the plants will throw up fine spikes of bloom year after year, and the plant will be a conspicuous feature on the piazza or in the lawn. The winter treatment is simply to remove the tub to a light dry cellar free from frost, just before the nights begin to be frosty, water once a week during the winter, only giving enough to keep the roots from shrivelling.

Our other mode is: select a large plant, pot it in rich soil as above in a pot large enough to contain all the roots. As the plant grows and the roots touch the sides of the pot, repot and continue to do so as the plant grows. Remove all suckers as soon as they appear. The flower stem will be very strong, and the flowers larger and more numerous; winter the same as above.

The species we have mentioned (*A. umbellatus*) is that most commonly grown, the others, *A. minor*, and *A. precox*, and the varieties of *umbellatus* with white flowers (var. *albidus*) and with variegated foliage (var. *variegatus*) and blue flowers are very distinct.

HYDRANGEA MORTENSIS, too well-known to need description is a noble object if grown in a large tub as directed for *Agapanthus*: the soil should be well rotted dung, loam and peat, broken up but not pulverized. Treat the plant in every respect like the *Agapanthus*—the two plants side by side contrast well. The flower is naturally pink—a few iron filings mixed with the soil will give us light blue flowers. The plant will lose its leaves in winter in the cellar, and should have only water

enough to prevent it from drying up until again started into growth in the spring.

Iris Persica, the Persian Iris. While the crocus and snowdrop are commonly planted for early spring flowers, this lovely little plant is hardly known and very seldom cultivated. It is a native of Persia, has been introduced about two hundred and fifty years, is perfectly hardy, blooming early in April in warm sheltered situations: The bulbs are small, requiring the same general treatment as Dutch bulbs for garden bloom: the plant grows about three inches high, the leaves are glaucous green, the flowers pale blue, orange and black, very freely produced and exquisitely fragrant. A clump of this little "spring beauty" is one of our choicest spring treasures; while we have grown it for years, we have seldom seen it except in our own garden. If left in the ground, the bulb takes care of itself from year to year.

Omphalodes vernæ, Navelwort—improperly called *Cynoglossum*—Hounds tongue, is a delicate little blue flowering plant, the blossoms much resembling the forget-me-not (*myosotis*). It is a perennial, native of the South of Europe, and perfectly hardy, flourishing in any garden soil, yet rather apt to die out in dry situations. About the middle of May the plant is a mass of flowers of the liveliest blue. In England the plant is found in every cottager's garden, and is a general favorite; it is strange it is so little grown in this country.

Phaseolus Caracalla. This beautiful species closely allied to the Scarlet Runner Bean, (*P. multiflorus*) is a magnificent or-

nament of the green-house or stove. In foliage it much resembles the common bean, but its flower is remarkably beautiful; the banner and hood of the flower are spirally twisted, unlike any flower with which we are familiar—the flowers are very large, resembling a bean, color yellowish and purple, or purple and white if grown somewhat in the shade, highly fragrant, and very freely produced. The plant is a perennial of easiest culture, requiring to be planted out in the green-house border: like most of the family it does not succeed in pot culture—the root is tuberous, perennial—the plant is very subject to attacks of red spider, which can only be kept under by frequent syringing. It blooms all summer, and often into the winter; propagated easily by seeds or cuttings.

Jeffersonia Diphylla, Twin Leaf.—Like many of our fine indigenous plants, this beautiful little spring flower is little known. The foliage is very beautiful, each leaf being exactly folded together; the flower is white, somewhat resembling the bloodroot, (*Sanguinaria Canadensis*) and blooming about the same time; the seed vessel is very curious, the top lifting off by a hinged lid when the seed is ripe. The plant is a hardy perennial, native of Virginia and the lime-stone districts of New York. It would prove a great acquisition to our stock of spring blooming flowers.

There are many other plants we had proposed to mention, but the list is so long a further notice must be delayed till a future number.

Glen Ridge, Dec., 1864.

MODEL SUBURBAN COTTAGE—IN THE OLD ENGLISH, OR RURAL GOTHIC STYLE.

BY FREDERICK S. COBLEY, ARTIST, TOMPKINSVILLE, S. I.

The general appearance of this Cottage, as seen from the road, is shown in the engraving, (Fig. 1.) which is a perspective view of the North and East Fronts.

It is situated at Montrose, on the Lake-

like shores of Hempstead Harbor, near the village of Roslyn, Long Island, a spot noted for its beauty and healthfulness.

Size of building, 44 by 38 feet. Principal Plan (Fig. 3.) 10 feet high. P. shows

a recessed porch, with double doors of oak, (oiled) the outer ones open, to be closed only at night and stormy weather, behind the one on the right is a space for wet umbrellas, &c., the inner doors have glazed panels to give light within, and should be always closed. V. is the vestibule, containing a spiral staircase, with walnut steps and rail (oiled). The floor laid with encaustic tiles, with ceiling grained, and walls finished in imitation of stone in the sand coat. On the left (under the stairs) is a private

door opening into a lobby, fitted with wash-basin, water, &c., and lighted by a narrow window, that also serves to light the front basement stairs, so that a servant could answer a call, at either front or back doors, without passing through the Central Hall; which would not only be more convenient for them, but would be to the family and guests, especially in time of company, when the Hall would form a central room, by closing the doors that lead to the stairs: nor would this interfere in the



Fig. 1.—Perspective.

least with the domestics, or their duties: as they can go from cellar to attic without disturbing the privacy of a single room: and the guests could ascend, unseen to the dressing rooms above, (from either entrance) or depart the same.

The hall screen, separating the vestibule, should be of real oak, (oiled) and lighted in the panels with stained glass, which would impart a soft and pleasant light to the hall, and produce a fine effect on either side, day or night. The Hall is here placed in the centre of the plan, and so happily arranged are the doors and rooms, as not only to give it a symmetrical effect, but

to unite the whole, *en suite*; without disturbing the individuality of either. Also, the hall lamp and stove would light and warm, equally, every room, besides passage, vestibule, and stairs. The Cloak Closet is in the passage which contains the back stairs.

P. is the Parlor, which would be the favorite living room in the summer, as it faces the north, and has a large bay-window commanding a fine view down the harbor to the sound.

L. is the Library, and living room, connected with the parlor by sliding doors, with recessed book-cases, on each side, and

Model Suburban Cottage.

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the same on the sides of the bay-window, here facing the south, and possessing a beautiful view of the bay and hills, with the village in the distance, which make it the favorite quarters in winter, being fully exposed to the genial influences of the sun during the absence of foliage at that season. On the right of the mantel is a

private closet for plate, papers, &c., both these rooms have windows opening on the west veranda, with a fine view across the harbor. D. is the Dining room, and a most cheerful one, (as it should be,) with a large ornamental window on the east, admitting the morning sun, and a fine bay-window on the north, looking down the road and har-



Fig. 2.—Basement and Cellar.

bor, possessing a charming prospect of land and water. To harmonize with the bay (on the other end) is the sideboard recess with a dumb-waiter on the right, and a china closet on the left; on one side of the mantel is the door opening into the lobby, which communicates with the hall, and basement plan below, and fitted with wash-

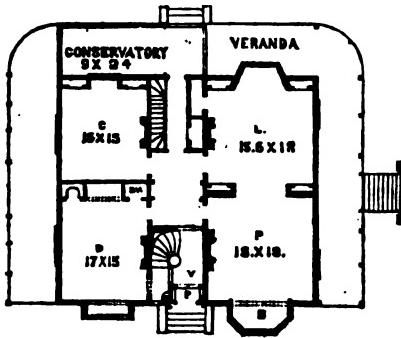


Fig. 3.—First Floor.

basin, water, &c., which would be found most convenient to wash hands or glasses, delicate or valuable articles of use not wished to be trusted to careless servants. It will be seen that the three bay-windows on this plan, are of different forms, and each fitted with inside shutters. C. is the principal chamber, or boudoir, facing south

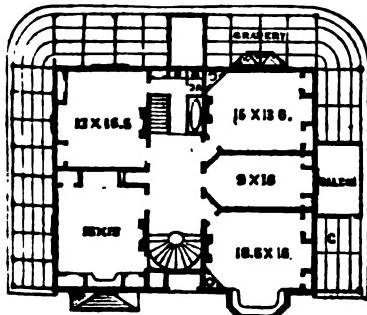


Fig. 4.—Second Floor.

and east, with fine large windows in each. The one on the south has closets on each side, and opens into the conservatory, making this a most delightful ladies'-work-room. It will be seen that all the rooms on this floor, although not large, are of the most comfortable size, perfect and elegantly pro-

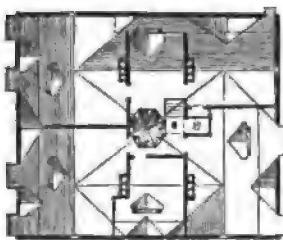


Fig. 5.—Attic and Roof.

portioned, and arranged with every conceivable convenience requisite for the enjoyment of all the comforts and luxuries of life.

Chamber Plan (Fig. 4.) is nine feet high, and in keeping with the rest, in its admirable arrangements, furnishing five excellent rooms, with a bath room, convenient to all,

fitted with the latest improvements, (the water closet enclosed, and vertical pipes, which would make freezing impossible). The four principal rooms are about equal in size and attractiveness, as they possess the same fine views as the corresponding ones beneath, and each finished with fire-places and ample closet room. The small room windows open on a balcony, with a charming view of the bay; and would afford an agreeable lounge in summer evenings, to enjoy the setting sun, or cool breeze. All the rooms on these two floors (except the last) to be fitted with Dixon's patent grates, and Arnott's ventilating valves, which would secure sweet and healthy, warm rooms, without draughts. The hall, as will be seen, is well lighted and ventilated, not only by the staircase window, on the north, but by the ventilating sash-lights over the doors of every room; the bath room door is also lighted in the panel with ground glass. Between the doors, on the east side, is the lift, or dumb-waiter, and dust register, which being in the centre of the plan, is of equal convenience to all.

Fig. 5. shows the roof and attic plans, which contains five good rooms for the accommodation of the servants, storing fruit, trunks, &c., and drying clothes. As this plan has the same central arrangements as all the rest, consequently the same advantages in economy of space, and of direct and easy access to every room, stairs, &c. The landing here is lighted in the same way as the hall below, and by the same staircase window, with the addition of a large sky-light and ventilator in the centre, which would keep the rooms sweet and cool.

On observing the relative position of the different doors and windows, in the several plans, it will be found that the house may be ventilated by through drafts in every direction at pleasure; a luxury to be appreciated in the heat of summer. Also, by carrying the lift, or dumb-waiter, to the top of the house, and communicating with every floor, its full value would be secured, besides forming a ventilating shaft for the

whole building, from cellar to attic. Another valuable labor-saving convenience (next to the water-works and lift) is the dust shoot, which is simply a tin tube, with registers in the floors of the different plans, to sweep the dust into, from the rooms, where it descends to the cellar, and is caught in a barrel, to be removed when full. It is here placed in the hall, by the side of the lift, on every floor, which by this central arrangement is at the door of every room.

Fig. 2, shows the Basement and Cellarplan, nine feet high, and containing every requisite convenience for the domestic duties of a family. As they are on the same level, and under the principal story, would exclude the noise and smell of the kitchen. The garden entrance is shown by the steps on the south-west corner of area, which extends the whole of the west side, round to the hall door on the south; and covered by veranda, would make these rooms dry, cool, and pleasant, as they are but little below ground, and well lighted on two sides, with a large bay-window in each; the north bay fitted with wash-tubs, as this kitchen is intended as a back one, or scullery, and for cooking in during the heat of summer, it has a sink closet on the left of the fire-place, and dresser and shelves for pots and pans on the south side, by which, is a door opening into the basement, and one out on the area. The basement would be a cheerful room, facing the south with a large bay-window with seats and inside shutters, on the opposite side is a dresser fitted with plate rack, &c. On the east is the range and pantry; behind the range in the hall is a warm closet for cloths, shoes, &c., and opposite, under the stairs, is a dark one, for potatoes. At the north end of the hall, (and behind the scullery, fire-place, &c.) is the furnace room and front basement stairs. On the east side of the hall is the dumb-waiter, or lift. The Coal Cellar has two bins placed under the shoots, for large and small coal, with two on the east side for ashes and wood. Against the middle window is a wire gauze safe, for cooked meats, &c.; between this and the Wine Cellar is

the Dairy; the other division is for stores in general. All the partitions are made open, so as to admit the free circulation of light and air.

Construction, although of wood, is made nearly fire proof, by making the floors, walls, partitions and stairs solid. The walls and principal partitions are formed of slats of one inch thick by four inches broad, securely nailed one on the other, so as to form a one inch groove on both sides, to plaster on. This forms a good strong six inch solid wall, fire and vermin proof, and drier than any built of stone or brick. The stairs to have their skeletons of iron work, filled in solid with cement. The floors of basement and entry to be of earthenware tiles, the kitchen and cellar cemented. That of the principal plan, (forming the ceiling of the basement, &c., the seat of danger,) should be formed of brick, arched on iron girders, and filled up with cement, and laid with larch, (as that burns less freely than any other wood). The hall, &c., to

be laid with encaustic tiles. The floors of the chamber plans to have their timbers coated with plaster paris, and filled up with mortar and laid with larch. With the plastering of the ceilings, &c., on wire gauze, instead of lath; a slate roof, and the walls of the basement plan of hollow brick, and plastered on the inner surface. By these simple and inexpensive means, the house would be nearly fire proof, and life and property secure.

The exterior is covered by a sand coat, of a cheerful and rich, light brown, ochre tint, it being the most befitting for the situation and design, besides possessing the advantages of economy, and imparting a more substantial effect, it avoids that harsh and disagreeable glare and glisten of paint.

"Thus the design may be characterized by convenience, architectural propriety, picturesque effect and simplicity of decoration, while it possesses the essential recommendation of being within the limits of economy."

THE GRAPE CROP IN THE WEST.

BY R. BUCHANAN, CINCINNATI, OHIO.

Or late years the cultivation of the grape in vineyards has spread so rapidly over the Western country as to become an important item in our agricultural productions, and require an occasional notice of its progress. Time and experience have placed it beyond a mere experiment, and it may now be classed with other regular crops of the soil.

Like all other crops it is subject to casualties, and has its good and bad years, but is generally about as reliable as the apple, one of the hardest of our fruits.

This year, owing to the severe frosts of winter, which destroyed about half the buds of the vines, and a changeable summer, causing mildew and rot, the vineyards in the Ohio Valley did not yield more than one-fifth of an average crop, in Missouri and Illinois about one-third, and on the island and shores of Lake Erie about half a

crop, so that this may be called one of our bad years—in the Ohio Valley, certainly, the very worst. The average product of our vineyards for a series of years is about 200 gallons of wine to the acre, the same as in France and Germany. To illustrate the variation of this crop in different years it may be stated that my own vineyard of seven acres, planted with the Catawba grapes twenty years ago, the vines in rows 3 by 6 feet apart, and producing 17 crops, gave an average annual yield of near three hundred gallons to the acre up to this year, when it scarcely produced twenty. The largest crop was in 1853—847 gallons to the acre; the next best, 582 gallons in 1859, and the worst in 1864, about 20. The vineyard is favorably situated, and generally well cultivated. Vineyards in good localities, with even moderate attention, have always been remunerative. For example,

the one just mentioned, produced last year 2,200 gallons of wine, which was sold at \$1.60 a gallon three months after the vintage; this year only 130 gallons—the worst crop out of 17—but the two years together will pay expenses, and leave a fair profit. The annual expense of such a vineyard will range from \$700 to \$900. Residing in the country, but devoting most of my time to business in the city, the vineyard has been a mere hobby, and has not received that personal attention that it required. Many of our practical wine growers have done better.

On the islands and the southern shore of Lake Erie, where the climate is tempered by the influence of the lake, the grape crop is more reliable than with us in the Ohio Valley, and the profits greater. The grapes are packed in boxes and sold in the large cities, but little being made into wine. In that region the vines are usually planted eight feet apart, and trained on trellises.

At the German settlement of Hermann, Missouri, the principal vineyards in that State are to be found; and in Illinois and on both shores of the Mississippi, as high up as St. Paul, the grape is cultivated with varied success. Wherever a German settles down in the West, you are sure to find the grape vine; they appear to have a natural affinity for each other. Some very intelligent and successful vine-dressers reside at Hermann, and their wines have a high reputation in St. Louis and other markets.

Something might be said about the different kinds of grapes cultivated in the West, and of such as are suited to the localities of its diversified climate, and of new varieties now being tested, but it would make this article too long. The subject may be referred to in another number.

Clifton, near Cincinnati, }
12th Nov., 1864. }

AN HOUR IN THE VINEYARD.

BY JOHN S. REID, FAYETTE CO., IND.

IT is now more than one year since I have had the pleasure of communicating to the *HORTICULTURIST*, or of corresponding with its numerous readers, through its pages, and perhaps no apology is required for my silence, as this in itself, is sometimes the very best apology.

Be this as it may, having now some spare time on hand which I can give to "horticultural reflections" on the events of the past season, I embrace the opportunity and send them to you.

The fall and winter months of 1863 closed with an excellent prospect of plenty of fruit for the orchard and vineyard of 1864. The apples, pears, peaches and cherries never looked better, and the buds of the grape, the raspberry, currant and blackberry seemed all plump and sound; but during the month of Jan., 1864, the thermometer fell from 20° above Zero to 10° and in some

localities to 16° below in one night, and ruin and destruction was the result, to almost every orchard and vineyard in our valley, so that we have had neither pears, peaches, cherries, grapes, raspberries, blackberries, or currants; and apples only in some favored situations, and few in number of them.

Now, many will assert that a cold of 10 degrees below Zero will not have the effect on the fruit-buds here described, but the Fall had been extremely mild and temperate, and on the evening prior to the morning of the severe frost, the air was soft and balmy for that season of the year, hence it was not the mere fact that the cold of the morning was equal to 16° below, but the suddenness and extent of the change.

What was the result in March, when I began to trim the vineyard and prepare for spring operations? it was this, that I found

the wood of the canes apparently sound, but the buds all dead, with a few exceptions, and my prospects of a fruit crop entirely blasted.

Well, what did I do, will be the enquiry of many at a time. Did I cut down my canes or let them stand, in order to test the power of the vine and vitality of the cane in forcing a second bud, for many have told me that the second bud is equally as good as the first.

My gardener, who has had some more experience in vineyard culture than myself, tried both experiments. Some he cut down to one bud, and others he left trimmed, with one cane of five or six buds; so that, acting on the principle of the cook of the celebrated Dean Swift, who was fond of eggs, but very hard to please in the cooking—demanding them sometimes boiled soft and sometimes boiled hard—to please the Dean, he placed his eggs one day in the hot ashes, ends up, and presented them to his Worship—hard and soft under the same shell. But he was more fortunate than I, for neither plan availed, except in the vines of the Delaware and Clinton, each of which gave a few bunches, trimmed on the one-eye mode.

The special results were as follows:

Union Village, killed to the ground.

Clara, do. do.

Rebecca, do. do.

Lincoln, do. do.

Anna, do. do.

Herbemont, do. do.

Except a few old vines which were sound in the buds nearest the earth.

Catawba, killed in the bud—canes sound.

Diana, do. do.

Concord, chiefly killed in the bud. do.

Isabella, do. do.

Delaware, injured in the bud. do.

Clinton, do. do.

Since then I have laid in a small supply of Iona, Isabella, Adirondac, and Page vines, which are all doing well, and now, October 26th, 1864, my stock of vines of every description never showed a more healthy or vigorous appearance.

But, if I lost in grapes this season, I made up in strawberries, which were exceedingly plentiful, of excellent quality and flavor.

So far, the kinds propagated by me have been,—Wilson's Albany, Hooker, Hovey, Triomphe de Gand, to which I have added Russell's Prolific, Jenning's White, and a few plants of the Agriculturist's celebrated variety; and if I had the Mead's Seedling my stock would be complete. Of raspberries I have some of almost every new variety, but out of them all I cannot recommend any special variety, they are all so good, and, except this season, have always done so well.

But let us return again to the grapes. I long to see grown, in this valley, a first rate Delaware; and although I have given this vine the preference in soil and situation, still I cannot realize any show of grape fruit equal to what is claimed for it in the books.

The Page grape referred to in this article is said to be a seedling of the Herbemont; in bunch and berry, large; color, white; quality, best. Some think that the grape is a seedling of great merit, but not having been thoroughly tested, it cannot take rank with the Delaware or Iona. My own opinion of it is that it is an excellent table grape, but tender, and will require protection in winter. I have a number of seedlings of my own, and which should, and I think would, have fruited this season had they not suffered in January with the frost. Two of them offer well in the appearance of the leaf and wood, and if good in the berry, as I know that they are hardy, equal to the Isabella, they may prove of some value.

From my vineyard, one year ago, I made 250 gallons of most excellent wine, which is now ready for settling; but this season is a complete failure, having not gathered one bushel of grapes from all my vines. Running over the pages of the HORTICULTURIST for some two years past, I find the enquiry frequent as to the mode and manner of making pure wine, and the grapes which are best for this purpose.

Having once, through your pages, given the way how I make my wine, I have nothing to add that would be of much value, but I am, like others, enquiring for the grape. During last year I made a barrel of wine from mixed grapes, such as the Catawba, one-half; Clinton, one-fourth, and Concord one-fourth; and the product is a wine of a red color, superior to the pure Catawba—one which, both to the eye and taste, commands a decided preference. From what I have seen of the Delaware

wine, I have no doubt of its superior quality, but I am afraid of the lack of quantity, or yield of juice, or in the number of bushels or pounds from the acre, as compared with the Catawba.

And now allow me to hope for better success for the year 1865, so that our yield of fruit and wine will be blessed with an abundance, and that peace and happiness may once more be restored to our beloved land.

RURAL FOOTPRINTS.

BY THE AUTHOR OF "TEN ACRES ENOUGH."

It has been the burthen of modern writers on horticulture, and of the gentlemen who come out of great cities to deliver eloquent addresses at our agricultural fairs, that we tillers of the soil should not only attend these annual exhibitions, but that we should take time to visit one another, that each might thus learn something of what the other was doing. Even the editorial fraternity—the wielders of the pen and scissors—upon whom so many thousands of us pin our faith concerning the merit of a new process, a freshly invented turnip slicer or sausage stuffer, or the last new strawberry, which by some singular good fortune is certain to be the best—even these are prone to repeating the same recommendation that the farmers of one township should precipitate themselves on those of another, not to spy out the nakedness of the land, but its abounding fatness. I cannot remember that any distinguished lecturer has thus invited all the world to come and see him, though freely exhorting it to call upon his neighbors. The suggestion was a good one for the world; but the neighbors must speak for themselves. Moreover, it presupposes, and with a diffident propriety peculiarly charming, the idea that no one of us knows everything—a fact of which some of us must have long since let in a very decided suspicion—and

that by thus exchanging visits we must of necessity enlarge our stock of knowledge touching what belongs to our particular vocation.

The pensive public, thus stimulated by pen, by tongue, and by press, are not slow to adopt these hospitable recommendations. There are circumstances in the case of particular individuals that do not seem to require so powerful a combination of stimulants to curiosity, as some who read this can testify. There are searchers after knowledge who, of their own volition, go everywhere. Travellers are proverbially well-informed men. If they traverse the world, it is with the world itself that they become acquainted, accumulating facts and experiences of which they would learn nothing in a lifetime spent at home. It is no less true of every cultivator of the soil. In his own way he should be a traveller also, and should visit not only the celebrities of his profession, but his unpretending fellow cultivators. He can go nowhere without learning something instructive or encouraging, seeing something to imitate, or something to avoid. A hint dropped by an intelligent cultivator may be worth hundreds of dollars to him, just as a single paragraph in an agricultural paper touching prices, has saved to the reader even a larger sum.

In ancient times the English law required a young man, on completion of his apprenticeship, to travel over the country a certain number of years, working at his trade, before he could be licensed to make a permanent beginning for himself. The object was to compel him to become familiar with the different modes in which other craftsmen conducted the business he had learned, so that by knowing all, he might become a perfect workman. Traveling from one farm to another, to learn what was going on upon each, how this or that process was conducted, what machines were successful, which were failures, what was the most profitable fruit crop and how best to produce it, who had the most successful green-house, and how it was built and heated, with the long catalogue of items on kindred topics—would be a mere repetition of the English obligation to become perfect in the farmer's calling.

There are times throughout the year when most men can indulge in this useful recreation, and there are those who systematically devote to it a portion of every season. It serves instead of idling away time at the seashore or the springs, besides being infinitely cheaper. I have indulged in it myself, and have rarely gone anywhere without learning something that was new to me, and many times useful. On some occasions I have stumbled upon great establishments belonging to wealthy men, where the surroundings were so magnificent, and the details so highly elaborated, as to sink, even in my own estimation, the modest holding whereon I have been operating. I was satisfied with it until I saw what the wealthy man had done. But if there were regrets, there were compensations at hand. The condition of the adjoining farm was in strong contrast with that of the millionaire and of my own. The lights and shadows of agricultural management thus succeeded rapidly to each other. If the former dazzled and abashed me, the latter fell gratefully on the discouraged spirit—it was a sort of comfort to be assured that there were worse farmers than myself.

Curiously enough, I generally contrived to pick up an item of knowledge from each—I was on my travels, and why should I not learn? But the wealthy man must farm to little purpose indeed, if his establishment be destitute of improvements, even in small things, from which the lesser lights of the profession can learn something useful. On these brief perambulations I have uniformly found the latch string of the door within sight and reach. Going in unheralded, and even anonymously, I have never been received discourteously. The house-dog may have been snappish, but the proprietor has been all suavity.

In common with my fellows of the plough and hoe, I have entertained my full share of curiosity hunters. There were those who had never seen a strawberry bed, and others who went off in raptures at the gorgeous sight of six acres of blackberries when in bloom. The mysteries of under-draining confounded one class, while they were fully appreciated by another. Some were accomplished horticulturists, who generously excused my short comings, while others were the merest literalists imaginable. One hot July afternoon, while waging savage warfare with a keen hoe among the weeds, in all the luxury of shirt sleeves and a timeworn straw hat, I was suddenly accosted by a gentlemanly stranger who had approached me unperceived, so wholly had my attention been devoted to the common enemy, the weeds.

"I was looking for the author of 'Ten Acres Enough,'" said he.

"Not with a writ of ejectment, I hope," I responded, pausing in my work, and resting on my hoe, and adding, "he must be either you or I."

"Well," said he, "I bought the book in Philadelphia, walked my horse home that I might read it, got through all but a dozen pages, and have come here to see you."

This led to further colloquy, and a slow walk over the grounds. My visitor was the owner of a hundred acres not many miles from me, and professed but limited faith in what I had written. He had never

done the like himself, and considered it impossible for any one else to do so. Half suspecting that he came to corner me, I was not only circumspect, but voluble—he owned a hundred acres, and must therefore know a great deal more than myself. Of blackberries and strawberries he could learn nothing from me, as he had dipped largely into them. I showed him my peach trees, swabbed with tar at the butts, and pointed to the absence of weeds among the blackberries, which he did acknowledge to be cleaner than any he had seen. Just then my foreman drove by with the cart. I assured him that that was my thirty dollar horse, and that he had cost no more. He conceded that all these items were in the book.

As this cross examination was going on, I had raised my hoe with the blade upward. It was a half-round hoe, with sharp corners, made of thin steel. His eye caught sight of the blade, and coming close to it he exclaimed, "Why, I never saw a hoe sharpened from the inside."

"What?" said I, "the owner of a hundred acres not know how to sharpen his hoe?"

Then running his thumb across the edge, he drew it back quickly, exclaiming,

BROAD LEAVED EVERGREENS.

BY H. W. S.

MESSRS. EDITORS,—Your old, and as I truly regard him, valued correspondent, G., in his article on Broad-leaved Evergreens, in your Nov. issue, asks anxiously why his Rhododendron Catawbiense should not flourish in Western New York, when R. Maximum seems to do so well in that vicinity. He appears to understand so thoroughly the making up and protecting his border, that it does seem somewhat difficult to answer his question, or discover where the fault or error lies.

A bed composed of one-third muck, one-third sand, and one-third common soil would seem all that is necessary; but if he had said one-third peat, one-third sand, and

"Why, it's as sharp as a razor!"

"Yes," I replied, "I never work with a dull hoe," and drawing from my pocket a small flat file, poised it before his view, and enquired if that also was not in the book.

As there was no gainsaying these little matters, he enquired for my daughter Kate.

"Why," said I, "you know she is married and gone."

"But I did not know she had left you," he replied. "You did not tell us that."

So my visitor went the rounds. He was disappointed because every particular item of the narrative could not be realized on the spot. I labored to impress upon him that my object had been to show that a small farm, if thoroughly cultivated, would be certain to keep a family whose aspirations were moderate, and that while the main points were truly illustrated, the minor collaterals were of no practical value beyond making the dry facts of horticulture entertaining. But he could not see it—he was an uncompromising literalist—whatever was put in print should be literally so. Thus, as he came expecting to be disappointed, what wonder that he should go away heavy hearted?

one-third of equal parts of the well-rotted top sod of an old pasture, and exhausted hot-bed manure, I think he would have done better.

If by muck he means the heavy clay or swampy soil of some of our low lands about here, it is no wonder his Catawbiense do not flourish; but if he means the peaty, fibrous matter, which seems mostly composed of old rotted wood and roots, and decayed vegetable soils, then he is quite right.

If lime or chalk should enter into the composition of his "common soil," that would account for his bad luck, since lime is most repulsive to the Rhododendron.

My own experience has conclusively

proved to me that in order to insure perfect success, a heavy and permanent mulching of leaves the year through is essential.

My habit is, in November, to turn slightly under and into my Rhododendron beds the leaf mulching of the previous year, and to immediately again cover the beds and borders some six to eight inches thick with fresh leaves, which remains as mulch until the ensuing November, when the same process is repeated. The annual enriching the border thus gets, by the inturning of this decayed and decaying matter, seems to furnish sufficient food for the yearly progress of the plants, besides which the constant covering of six to eight inches of these moist, decaying leaves all summer keeps the roots in a cool equable temperature, promoting healthy foliage and well developed flower buds.

So necessary do I regard this perpetual mulching, that I would prefer a bed thus protected in the centre of an open lawn, exposed on all sides to sun and wind, than

the same bed, *not mulched*, on the north side of a wood or building.

Cutting back the roots of the screen on the south to prevent their depredation, is quite right, but after a number of years of this treatment, the amount of fibrous rootlets, produced by this annual pruning, is so large, and their absorbing qualities so improved, that the wear and tear of the border becomes very great. A very thorough way is to isolate the border entirely, by a wall, between the bed and the screen. Does G. know that the Rhododendron, beyond any other plant, in order to bloom regularly every year, requires the seed-vessels always to be removed? they can be easily broken off with the finger and thumb some two or three weeks after their bloom is passed.

There is nothing lately introduced so hardy and so valuable among the broad-leaved Evergreens as the three new mahonias—*Berberis Japonica*, *Berberis Bealii* and *Berberis Intermedia*.

Wodenhe, 7th Nov., 1864.

GRAPES IN 1864.

BY A. S. FULLER, AUTHOR OF THE "GRAPE CULTURIST."

A RETROSPECTIVE view of the many delicious grapes we have enjoyed during the past year, naturally brings to mind many instances where long anticipated pleasure has ended only in disappointment. Seedlings that have received the care and attention of years have been closely watched as the blossoms set and ripened, and when tested, have proved worthless, and thus in an instant bursting the bubble of hopes and expectations that have "grown with their growth, and strengthened with their strength."

But the horticulturist should remember only enough of the shady side to keep his expectations in due limits, and to teach him that however it may be in some other things, with originators of new varieties of grapes, there is such a word as fail.

He will have cause to remember how he labored in planting that little *thready* vine and watched its first budding, tenderly tied that slender shoot, anxiously watching it for months lest some *thrip* or other vine lover should mar a leaf—and each year repeating this same care, until at last the vine produces the long looked-for cluster of fruit. Then at last, when ripe, if he finds it so hard or so acid that it is not eatable, he will be ready to exclaim, better than none are the pleasures of anticipation.

This is the dark side of Grape Culture, which I would forget if it were possible, but it is deeply engraved with many lines on the tablet of my memory.

As I look from my window I see a hundred vines which bring to mind precious time, labor and money, all of which are

gone, with no other result than to aid in filling the pages of experience. Yet here and there are vines to which no such unpleasant recollections are attached, for the fruit they bear are among the good things of earth, that we love to eat as well as praise. Towards these we cherish feelings akin to mortal love, and never pass them without wishing to aid them by proper pruning, training and feeding to increase the richness and abundance of their luscious productions. Though we may regret that each has some fault, for none of those we call the best are perfect, still they possess so many good qualities, we are inclined to pass lightly over their imperfections. In what shall follow, we purpose to speak briefly of some of the best and newest varieties, and to note their various peculiarities, as they have appeared to us the past season.

DELAWARE.

The Delaware still stands at the head of the list for quality, as we certainly have no other variety which possesses such a purely rich, vinous flavor, and is so perfectly devoid of all offensive qualities. Its only defects, if they be defects, are the smallness of its berries and slow growth of the vines. But these are both partially overcome by high cultivation.

IONA.

This I shall have to place second only to the Delaware in the list of good varieties, although it has not been generally disseminated, and its real character as to hardiness, and its exemption to disease has not been fully ascertained. But from a four years trial, I am inclined to place it thus high on the list. It reminds me of a fine Catawba, perfectly ripened in its native latitude, where its muskiness, which is its greatest defect, under northern cultivation, is imperceptible. It is similar to the Catawba in color and size, but ripens earlier. The vine is a strong, vigorous grower, and so far has been free from disease.

ISABELLA.

The merits of this variety, so far as we

are at present able to judge, do not entitle it to rank third on the list of good grapes, but as it has been sent out by its originator, in connection with, and as a kind of companion to the Iona, I have placed it in the same position here.

It seems to possess some of that fickleness of character which belongs to its parent, the Isabella, sometimes very good, and in other seasons or localities far from satisfying to one who is familiar with the best varieties.

ADIRONDAC.

Fruit from the original vine still holds its own in good qualities, but few if any of the vines that have been sent out, have produced sufficient fruit to enable us to judge how good it will prove in other locations.

My own vines have not shown as much vigor as I could wish. They have also shown considerable mildew, but it may be owing to the season or to other causes that may be eventually overcome.

CONCORD.

It is said that the Concord is the Grape for the million, and without doubt the assertion is true, for the million or masses do not taste a fruit analytically, and should there be a slight foxiness about a grape they would not object to it, but many seem to consider it a merit. The Concord certainly possesses many good qualities and few bad ones. Its rapid growth, great productiveness and hardiness, large bunches and beautiful appearance, will always make it a favorite with those who are not very particular as to flavor, and prefer quantity to quality.

ROGER'S HYBRIDE.

Those known as No. 4, 15, and 19, have seemed to take the lead, but I have not been able to see anything remarkable about them, they are only passably good. No. 19 is too decidedly foxy to rank even with the Hartford or Concord. No. 4 is the best of the three, being quite sweet and early. But No. 3, in my judgment, is decidedly the best of all. It ripens the first of Septem-

ber, color light red, bunches quite large and uniform, flavor vinous and good.

RENSSELAER.

A new and beautiful variety, of medium size, dark colored, from Rensselaer Co., N.Y., that gives promise of being a first rate table grape, as it is very tender, with a rich and agreeable flavor.

FANCHER.

From the specimens received in 1863, from the original vine, I concluded it was the Catawba or very like it, but the past season, specimens sent me were far superior to those received in former years, and really distinct therefrom, being considerably smaller, much earlier and better flavored than any Catawbas I have ever seen that were ripened so far north. The Fancher promises to be a valuable grape.

ALLEN'S HYBRID.

This is probably the best of the light colored varieties, but it possesses so much of the Chasselas character, that it requires a very warm, protected location to ensure its ripening. In most locations the vine should be covered in winter.

ANNA.

We have never yet seen a specimen of this variety that was sufficiently ripened to be soft. It is possible it would do well in a country where September lasted till January.

CUYAHOGA.

A green variety, too late and too poor to be of value here, not equal to Allen's Hybrid or Rebecca. Even a passable variety of green or what is usually called white grape is a great desideratum, and he who will produce it will confer a great favor upon the country, as well as ensure himself a fortune.

DIANA.

Excellent in some localities, miserable in others, and of uncertain ripening everywhere.

CREVELING.

Early, medium quality; bunches loose, and not attractive in appearance.

We have spoken of these varieties only as they have shown themselves to us. In other localities and with different treatment they may have appeared to others as better or worse than we have judged them.

There is certainly nothing now under cultivation so near perfection as to deter any one from making further attempts to improve the grape, whether it be by seedlings, hybridization, or crossing the varieties.

Every one, whether gardener or amateur, should not fail to give this matter attention, not only for their own gratification and prospective profit, but for the public benefit.

BOB-O-LINK, OR RICE BIRD.

Some Naturalist has described a bird of very singular habits that is found in Cuba. It was said to be confined in the olden time to that Island, but since the introduction and cultivation of rice in our Southern States, the female has found the way to the continent, where she is known by the name of *Rice Bird*, always leaving the male behind and making these excursions alone. This circumstance has been cited as a remarkable instance of a change of character, and one which has taken place almost in our own times.

Now, who would suppose that this wonderful bird is that enlivener of our fields and meadows called "*Bob-o-link*?" yet it is no other than Bob himself escaped from the *limits*. Dressed in a particolored coat, with a voice of many modulations, and a heart overflowing with gladness, he sings whether perched on the fence, stump, or a tree; but his vivacity seems greatest when he rises on the wing, and shoots himself along, seemingly indifferent to his course, and only intent on his song.

The mystery which enveloped this bird,

so long impenetrable to our older ornithologists, was at length dispelled by the perseverance and sagacity of Wilson. Bob, says Wilson, only wears his fine coat during the amorous season; and then so much like the female as completely to escape detection in that disguise.

During his stay in this district, says Wilson, he behaves well, appears to feed exclusively on insects, and is entitled to the regard and protection of the farmers; but after he turns traveler, and visits other lands, we hear a bad report of his conduct. As soon as the young are able to fly, continues Wilson, they collect together in great numbers and pour down on the oat-fields like a torrent, depriving the proprietors of a good tithe of their harvest; but in return often supply his table with a delicious dish. About the middle of August they visit Pennsylvania near Philadelphia, on their route to Winter quarters. For several days they seem to confine themselves to the fields and uplands; but as soon as the seeds of the wild rice are ripe they resort to the shores of the Delaware and Schuylkill in multitudes; and in these places during the remainder of their stay appear to be grain devourers. The seeds of wild oats, furnish them with such abundance of nutritious food that in a short time they become extremely fat; and are supposed by some of our epicures to be equal to the famous Ortolon of Europe.

About this season the markets of Philadelphia exhibits proofs of the prodigious havoc made among them, for almost every stall is ornamented with strings of these

birds. Early in October they appear in the Island of Cuba in immense numbers in search of the same delicious grain. About the middle of October they visit Jamaica where they are called *Butter Birds*.

Now, hear what the late Washington Irving says: "As the year advances, as the clover blossoms disappear, and the Spring fades into Summer, he, the Bob-o-link, gives up his elegant tastes and habits, doffs his poetical suit of black, assumes a russet dusky garb and sinks to the grass enjoyments of common birds. His notes no longer vibrate on the ear; he is stuffing himself with the seeds of the tall weeds on which he lately swung and chaunted so melodiously. He has become a *bon vivant*, a gourmand; with him now there is nothing like the joys of the table. In a little while he grows tired of plain, homely fare, and is off on a gastronomical tour in quest of foreign luxuries. We next hear of him banqueting among the reeds of the Delaware, and grows corpulent with good feeding. He has changed his name in traveling: Bobolincon no more—he is the Reed-bird now, the much sought for tid-bit of Pennsylvania epicures, the rival in the unlucky fame of the Ortolon! Wherever he goes, pop! pop! every rusty fire-lock in the country is blazing away. He sees his companions falling by thousands around him.

Last stage of his career: behold him spitted with dozens of his corpulent comrades, and served up a vaunted dish on the table of some southern gastronomer.

THE ADIRONDAC GRAPE.

BY GEO. H. MARTIN, NORWICH, CONN.

I HAVE been a careful reader of your valuable journal for several years, and have been very much interested in all articles touching the grape question, and particularly so in the discussions about the Adirondac grape; and as my experience differs so widely from statements made by one of

your correspondents, Mr. F. C. Brehm, concerning this grape, I feel disposed to make it public. In the first place I would say that I have fruited the Delaware, Diana, Concord, Creveling, Roger's Hybrid Nos. 3, 4, 15, and 19. Allen's Hybrid, Rebecca, Union Village, Anna, Cuyahoga,

Golden Clinton, and Lincoln, and have had the pleasure of tasting the Iona and Brackett's seedling for two seasons past.

Now, in regard to the Adirondac grape, I received from Mr. J. W. Bailey a small one year old vine in the spring of 1862. I planted it with the same care that I do all the kinds I deem worthy of trial, and no more. It grew that season eight or nine feet, and ripened its wood to the top. I cut it down to four buds in the fall, and covered it with leaves for the winter. The next spring I found it fresh and lively, all ready for another race with its sisters beside it. As fruit buds appeared, I allowed three bunches to remain, and they were fully ripe by the 16th of Sept. I let three canes grow—two for arms, the other for layers; the two main canes grew nine feet each, the third cane five feet. In November I cut them back to five feet, laid them down and covered them for winter. I protect most all my vines in the winter, and I think it pays well for the trouble. When I uncovered them this spring the Adirondac was as green and fresh as any of the varieties I have. Every bud pushed, and in some cases double buds appeared. It blossomed with the Delaware; the fruit set well, and began to color, August 1st; was in first rate eating order September 1st, and was *fully ripe by the 10th.*

In regard to its mildewing, I can truly say that the first two years it was perfectly free from it.

This year it mildewed a very little, but not enough to injure or retard the ripening of fruit or wood, as you will observe by the time previously stated when the fruit was

ripe. And I will further state that the Delaware, Allen's Hybrid, and even the Concord mildewed more this year than the Adirondac.

Nevertheless, I have not discarded them, but consider the first two varieties named among the very best. I have, as yet, said nothing about the quality of the Adirondac grape, and I am fully aware judges differ as to what constitutes a grape of the first quality; therefore, I think it very unwise, and a little egotistical to make the sweeping assertion that the Adirondac grape "is neither hardy, healthy, very early, or first quality," for I happen to think that it is *healthy, very early, and of first quality*; and probably seventy-five different persons have, this season, tested it, at my house, with the Delaware, Allen's Hybrid, Röger's Hybrid No. 15, Diana, Rebecca, Union Village, and other varieties, and *every one* pronounced the *Adirondac first quality*. I cannot speak so positively in regard to its hardiness, as I have covered it every winter, as stated before; yet I think it is as hardy, and would stand the winter as well as the Isabella. I would not detract one iota from any of the first quality grapes now before the public, but would welcome with joy such new-comers as the Iona and Israella, for in them and Adirondac I find a sweet, tender, melting, and vinous pulp, qualities certainly very desirable. I wish only success to those who have done so much in disseminating such choice varieties, for by so doing many a vine has been planted, where weary pilgrims may rest beneath its cooling shade, and feast on its luscious fruit, as they journey homeward.

Nov. 7, 1864.

LIME AS A FERTILIZER.

BY B. AYCRIGG.

In the neighborhood of New York some persons estimate a bushel of shell lime to be worth two or three of stone lime. A gentleman in Baltimore informs me that some in that neighborhood reverse this estimate. I

will repeat a part of my answer to him, as a supplement to the paper in the HORTICULTURIST, May, 1861—pages 206, 209—under the title, "Practical Theory of Fertility."

Limestones are of variable qualities. In

England they use limestones that contain much sand and but little lime, and fall to pieces when burned. I do not know that such are used in this country. Cement stone is a compound of lime and clay. Its geological position is at the junction of the limestone with ordinary roofing slate. I know that it is found at various points in the valley south of the Blue Mountain, and north of the Blue Ridge. A few years since, I saw large quantities that had been thrown away as useless "deads" that had covered the slate quarries at the Delaware Water Gap. They did not know what it was. I do not suppose that it is ever used for agricultural purposes, because its preparation is too expensive. It will run into glass if burned as hot as ordinary limestone. It will not fall into powder, but must be ground like grain in order to form hydraulic cement.

The same valley contains the grand deposit of secondary limestone throughout its whole extent. All the limestone that we use in this neighborhood comes from this valley on the Hudson River. Thence it extends through Orange Co., N. Y., and through Sussex and Warren Counties, N. J.; thence past Easton, Allentown, Reading, Lebanon, Carlisle, and Chambersburg, Pennsylvania, and Hagerstown, Md., and through the Shenandoah Valley, Virginia. It is the cause of the extreme fertility of the part of this valley where it is found. It is probably the same in composition throughout its whole extent. It has been analyzed for the proprietors of the Robisonia Furnaces, near Reading, Penn., and found to contain from 12 to 40 per cent. of magnesia. The quarry-men cannot distinguish the difference. It is used as flux in smelting iron ore. The furnaces sometimes get into difficulty from the unsuspected change in the quality of the stone that is above or below that which they have been using.

The neutralizing power of magnesia is 4.83, to pure lime, 3.50. The neutralizing power of lime with 40 per cent. of magnesia

is $40 \times 4.83 = 193.20$, and $60 \times 3.50 = 210.00$ makes total for 100 = 403.20 against 100 shell lime $\times 3.50 = 350$. Therefore, lime made from the strongest of these limestones, is 15 per cent. stronger than an equal weight of lime made from shells or marble, when used to neutralize the soil. It has also an additional value when there is a deficiency of magnesia in the soil. On the other hand, an excess of pure lime will make the land permanently fertile, while an excess of magnesian lime will make it permanently barren, for the reasons stated, May, 1861.

I have no corrections to make in the principles then proposed as "Theory." There was no guess work. That short paper contains the condensed results from a careful study during four years. There is a large mass of evidence to sustain the positions then taken. But I then said: "The proper quantities of the various applications must evidently depend on the present condition of the soil. * * As a preliminary experiment I suggest * * one large application of pure lime in excess, to make an artificial limestone soil as a basis of operations—say 200 bushels slaked, struck for ordinary land." I now suppose this to be too little. A Pennsylvania farmer, who has the reputation of being most successful in a district that is not generally fertile, says emphatically, "I never use less than 200 bushels." I should not risk this quantity of stone lime without a previous experiment.

I said in May, 1861, "The reduction by chemical equivalents of a great number of analyses of soils, both good and bad, has proved to me that neutrality is the most distinguishing characteristic of a fertile soil." I did not then state that Johnston, in his agricultural chemistry, says that in England they have found that burning the soil of an old garden will restore fertility. In these cases, lime or ashes, or guano, in place of stable manure, would restore fertility by neutralizing the excess of vegetable acid in these muck heaps, and save this

valuable fertilizer, which they now burn up in order to produce neutrality, for that is the result.

A bushel of lime is a very indefinite measure. I had 6 loads of 10 barrels, or 25 bushels "round" measure of bulk lime, slaked in one hcap. They formed 15 loads of the same size, or each load contained the substance of 10 bushels fresh, round measure. This body measured 28 bushels struck, and brought from one place 30, from another 36, and from a third 40 $\frac{1}{2}$ bushels slaked, struck. A distinguished culturist estimates slaked, heaped. This

would make 22 $\frac{1}{2}$ bushels. In parts of Pennsylvania they estimate in fresh, heaped measure, and would call this load 9 bushels. We have, thus, in this wagon-body 9, 10, 22 $\frac{1}{2}$, 25, 28, 30, 36, and 40 $\frac{1}{2}$ bushels according to different modes of calculating. Besides, the 25 bushels, when slaked, expanded to two and a half loads. The nearest approximation to uniformity would be slaked and struck, although one man can put 40 $\frac{1}{2}$ bushels in the same space that another fills with 30 bushels.

Passaic, N. J., Nov. 18, 1864.

GRAPE STATISTICS.

BY PRATIQUER.

SUPPOSING your readers to have passed the school-boy period, that they know how many square feet are in an acre, and that the number, whatever it may be, divided by that other number, represented by the distances apart of trees or vines, when multiplied into each other, will give the number of trees or vines to an acre. I will not trouble them with the calculation that I am called upon once a fortnight to make for my neighbor, Mr. Phogee, who for the past five years has entertained an idea of planting a vineyard. I shall endeavor to enlighten the said readers on some matters of which intelligent cultivators appear to be not fully informed.

My remarks apply to the latitude of Newburgh on the Hudson. Here grape vines throw out their first leaves about the 12th of May, the Clinton as early as the 10th, and the Catawba within six days afterwards.

The time of blossoming averages about 15th June; Hartford and Creveling are the earliest, and blossom from 7th to 10th; Isabella and Catawba about 18th; Concord and Rebecca about 20th.

The time of coloring is very irregular; but few grapes are ripe under thirty days

after they begin to color, and any grape that does not color before the 1st September may be regarded as a late ripener.

The time of ripening is from 5th September to 20th October; any one that will fully ripen, year after year, by the 25th September is worthy of cultivation, say within one hundred days after blossoming. This time varies from ninety to one hundred and twenty-two days. From coloring to ripeness requires from twenty-five to thirty-nine days, as shown in the following table

Allen's Hybrid.....	95—30
Catawba	102—30
Concord	96—29
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If the flowering takes place on or before 15th June, and the ripening within one hundred days, they would be ready for use or market by 20th September, before the usual autumnal frosts in this region. Those which ripen early usually blossom early, such as Allen's, Creveling, Hartford, Delaware and N. Muscadine. The Concord and Rebecca are exceptions, yet they ripen about 15th September. The Miles is the earliest ripener with us, on 5th September, a grape which, at present, is but little known.

The new varieties, Adirondac, Iona and Isabella, are yet to be tested, and unfortunately have not been shown ripe as early as was promised by interested parties. My remarks apply to the facts; your readers must draw their own inferences.

In marketing grapes, the size of boxes may be calculated by allowing one pound of grapes to occupy fifty-four cubic inches. A box twenty inches long, twelve wide, and five deep, inside, will contain twenty-two pounds, and may, by close packing, be made to hold twenty-five pounds. One twenty-four inches by fourteen, by eight in the clear, will hold fifty to fifty-five pounds. Not over fifty pounds of Concord should be packed in such a box; its liability to crack and damage the remainder is the reason. Isabellas, having tougher skins, may be crowded closer, especially if the bunches be loose. Compact or solid bunches are not the best for packing.

Putting up grapes for market requires care and skill. The box should be opened at the bottom, and the best layers be first put in on what becomes the top when opened for sale; if carefully arranged in layers of white paper, the boxes full, raised about an inch above the cover, so as to be firmly pressed down when it is nailed on, they will show handsomely and bring the highest price; so much for appearances.

STATISTICS OF WINE-MAKING.

Any grape that contains fifteen per cent. of grape sugar in the Must will make a good sound wine; none but well-ripened

grapes will yield this amount of grape sugar. This produces about seven and a half per cent. of alcohol, the quantity requisite for its preservation; such a wine, made with due care, needs no addition of cane sugar, and is indeed much better without it. It should not be fermented on the skins, which contain a large amount of tannic acid, imparting a disagreeable flavor to the wine, and this may be assigned as one reason why Isabella wine is usually so poor. Another reason is that it is made of unripe fruit, with water added, a weakness that cannot be overcome by the addition of sugar: hence the opinion that Isabella grapes will not make wine.

Grape sugar is now manufactured extensively in Germany from the starch of potatoes, for the purpose of making wine from fruit that has not the requisite quantity. Ripe Catawba yields 15 to 16 per cent., and is therefore eminently our best wine grape; Isabella yields 14 per cent.; Concord, 13 (and probably in Missouri, where it is said to make good wine, 15 or more); Hartford, 13. These may be made into light wines, which will keep in bottles in a cool cellar, but will not bear transportation or exposure to summer heat. Sugar in small quantities may be added and fermented with the Must as a preservative; one pound to the gallon will add eight per cent. to the Must, and is quite sufficient, leaving no sugary taste after fermentation.

But little is known by the ordinary wine-makers of the country of the chemical action in wine. If sugar is added to the Must, and thoroughly fermented as it should be, a proportional amount of alcohol is produced. Those who add the sugar are disappointed if the wine is not sweet, and so check the fermentation. A more economical way is to ferment the wine and then sweeten to the taste, if it is desired to make a cordial or conserve of it; one pound of sugar will thus do the service of three pounds.

Twelve pounds of sugar adds one gallon to the bulk. None but the best double

refined sugar should ever be used in wine-making, and pure rock candy is better still.

Refuse grapes are often used for making wine, but are unsuitable. Unripe grapes are still more objectionable, the sugar used is as good as thrown away.

Water added to the Must is an absolute abomination, no matter how thick the Must may be; it will work clear and be thin enough without water. Wine and water should be served in separate glasses.

Isabella grapes require 14 pounds to make one gallon *Must*; this Must, in evaporation and sediment, loses three-fourteenths its bulk, equal to 21 per cent.; it therefore takes eighteen pounds of Isabella grapes to make a gallon of *wine*.

The Catawba and Clinton, which I de-

nominiate wine grapes, have much less sediment, and need no sugar.

To make a barrel of 30 gallons wine, fill a forty-gallon barrel with Must. With grapes at ten cents per pound, wine will cost two dollars per gallon when first made. Twelve pounds of Catawba berries, loose from the bunch, will make a gallon of Must, freed from skins and pulp, but it takes 15 pounds to make a gallon of clear wine.

Forty-five pounds of grapes, in bunches, make a bushel, and will yield about thirteen quarts of juice. Four hundred and ninety-four pounds of grapes yielded thirty-three gallons of Catawba wine, and a residuum of one hundred and sixty-six pounds of stems, skins and pulp.

One hundred pounds of Must measures forty-three quarts.

HORTICULTURAL SOCIETIES.

BY FARMER B.

HORTICULTURE, Messrs. Editors, is a Member of the family of "Agriculture," so we farmers consider it. At any rate, they are related like all the inhabitants of Smithtown, and quite as much of a "unit" as the Cabinet at Washington. When a brilliant Aerolite dashes across the heavens like a rocket of the skies, the very "congreve" of the war of the gods, all eyes are turned toward its trail of fire, an unit, monstrously extended, filling all minds with wonder! But an explosion rends the air; the splendid meteor is torn asunder, flies off in fragments, and ends in showers of meteoric stones, which fall far distant! Is it an unit now, or more puzzling still, is each piece an unit? A hard question for political casuists, with which we have nothing to do, thanks to the blessings which flow from honest industry and hardy toil.

In order to learn all that we could by seeing what others had learned, and were learning, we have been traveling some among our border brother farmers, and as luck would have it, happened to attend

several meetings of our Horticultural Societies. There can be no doubt, Messrs. Editors, that these associations are actually productive of good; because, wherever they are in operation, a sort of new impulse is given to the minds of cultivators of the soil, and to those of other members of the community, more or less turned in the right direction. That is to inquiry, attention to facts, and of course to observation. If there are faults in the plan of any of them, experience may serve to correct them, for this, after all, is the chief school of wisdom. The idea of a ball—a dancing party—as a means of promoting Horticulture, seems to us a little out of joint—an odd potion—and yet we do not feel disposed to quarrel with it. The music at any rate was quite musical, and so, we doubt not did our town cousins consider the dancing. To give your readers an idea of it, the garden was all lighted up like the grove of woods at a camp-meeting time, all full of bustle, people everywhere, and all in great haste!

We doubt if we country folks could learn

anything about horticulture at such a place, and yet, do we not insist upon it, that horticulture and agriculture are nearly related, though we could not discover any thing that looked like it at the great ball. The prices paid for everything there, soon satisfied us that there were "whistles" in this world besides Dr. Franklin's, and began to raise doubts in our mind, whether they were all gardeners that attended there.

At the next horticultural exhibition that we attended, instead of a *ball*, they had a *dinner* "served up" at about our tea-time, just before dark! This puzzled us to find out why they should call this a dinner, till we saw that it was evidently intended for the principal meal of the day, and perhaps had been delayed waiting for the gardeners to get through with their day's work. It was a sumptuous feast with abundance of very fine fruit, besides all the eatables and drinkables that could be desired to keep from enjoying good health. If gardeners live at this rate, they must have strong constitutions! The anniversary, however, comes round but once a year; and perhaps at other times they dine when the work of the day is but half done, as we farmers do. Eating, at any rate, calls for food; and so, for aught we know, does fiddling and dancing; but it puzzles us to see how these feasts and balls form any part of agriculture! There are mysteries, it would seem, in all matters, and so there may be in this, and quite beyond our comprehension! There was an old school-mate of ours there, a member, as he told us, who had come several miles to bring a small wagon load of the produce of his garden to the "exhibition," worth at home five or six dollars, all which would become the property of the society; and he stood a chance, like a purchaser of a lottery ticket, to get a premium of one or two dollars. The ticket for his dinner cost him—let us reckon up—the price of four bushels of potatoes, turnips, or oats; two bushels rye or corn; two bushels barley; and as much as the selling price of five or six hundred pounds of hay, quite a little "jag," as

we call it. Even if sober, he would hardly ride home that night, and so we may reckon the expense of one night in town, himself and horse, with at least one day's loss of time, and then foot up the account of profit and loss; with our arithmetic, we cannot discover how *he* is to make anything by this kind of Horticulture! We farmers could not, suppose the name changed, if necessary to an Agricultural exhibition. There would be loss to fall somewhere, and no great mystery where, surely. As to the profit, some of which there must be, with so much loss, we suppose that all takes a direction for the public good and that these suggestions can therefore give no possible offence. We should all have some patriotism, and be willing to participate in its burdens, so as to make them fall as equally as possible. With this view, we would most respectfully suggest to our cousin Horticulturists to bestow a little more thought upon a reconsideration of some features of their plan of operations. If they do not, we would propose it to the gardeners.

In sober earnestness, it appears to us, Messrs. Editors, that this plan of operation asks too much of our *first* cousins, the real sweat-of-the-face-men, for the gratification, to say nothing of the benefit of our *second* cousins, the Horticulturists, or even for Horticulture, and the public good. The burden falls unequally. Gentlemen fond of the display and the name, may amuse themselves with Horticulture, and set an example in doing it, but they should be careful to bear a due proportion, according to their means, of all the labor and the expense, this is not done now, and the effect is felt among the real gardeners, who keep aloof or co-operate reluctantly. To their good sense, to their patriotism, the managers of these societies may well appeal, but it must be in a way compatible with fair impartiality and strict justice. The farmers would then come in, as co-operators with all the members of the family united in a common effort for the common good. Those who toil at the oars must not be required to pay the

tolls, lest those who would ride, may have to stay at home, or pull away themselves. To go pleasantly we must all be co-operators: operators each in his own way. Social efforts conducted on such principles, would be pleasing to all parties possessed of one grain of patriotism, fruitful sources of public benefit and of immense power in giving a high tone of action to the public mind. We should then see, and the whole country would see, that farming and gardening are kindred occupations, and Agriculture and Horticulture are of one family, as are all the actual cultivators of the soil. To make them a unit, requires only united effort, concert in action with no intervening disturbing force, to speak in the language of philosophy.

We have thus, we think, certainly with feelings of the most perfect good will to all parties, indicated some faults which require correction, in doing which, we have also seen much to commend; and probably an-

ticipate fully as much good from Horticultural Associations, properly conducted, as any reasonable man. If experience confer any claims to respectful attention, Farmer B. may plead some of this, both as a practical farmer and gardener, and as an acting member and officer of several Agricultural and Horticultural Associations. We ask no undue deference for our opinions, but they may be naturally considered, and rejected or approved, as shall be found best, in the direction of every friend to his country and of its sources of prosperity and happiness. Considering every garden as a sort of miniature farm, and gardening, model farming, we would therefore studiously encourage horticulture, both for the elegant usefulness of its productions, and as a school of Agriculture. A farm without a garden, particularly where youth are in training for farming, is like a house without apartments or a farm without fences.

Duchess County, 1864.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

This number begins the twentieth annual volume of the *HORTICULTURIST*, and under more favorable auspices, perhaps, than any other volume has opened with, and this too in the face of high and advancing prices in all classes of material and labor. A determination on the part of the proprietors to advance its character and ability to the highest standard, to have the best talent in the land among its writers, to make it thoroughly practical, instructive, and reliable in all its departments, has met with the most flattering response from our readers. We therefore commence the New Year and the New Volume with a finer quality of paper, a superior typographical appearance, and an array of contributors of

the best practical talent. This standard will be maintained throughout the volume, our circulation has steadily and handsomely increased during the last six months, and our edition for 1865 will be double that of 1864, and far in advance of any volume issued during the twenty years the *HORTICULTURIST* has been before the public.

BINDING.—We are now ready to exchange bound volumes of 1864, for the numbers of that year, if in good order, on the payment of 75 cents. Cases or Covers uniformly stamped for any year, will be forwarded, post paid, on receipt of forty cents each. Periodicals of all kinds bound in any required style.

CLUB RATES TO BE DISCONTINUED.—On and after the First day of February, 1865, all Club rates to this Magazine will be suspended. The uniform price to all will be Two Dollars per annum. We mean to make the HORTICULTURIST for 1865, worth at least two dollars to every one who reads it, the same amount of matter could not be procured in book form for less than five dollars.

NOTICE TO ADVERTISERS.—The rates for advertising in the Horticulturist for 1865, will be fifteen cents per line of Nonpareil type in column, for each and every insertion, each column contains 100 lines of space and the charge per column will be \$15, and per page, \$30 each insertion. The advertising pages will hereafter be printed on fine heavy paper, and the execution of the press work equal to that in the body of the book. The percentage of increase in our subscription list is larger than the advance we make in the advertising rates, our charges per page for advertising are now and always have been considerably higher than those charged by Hovey's Magazine or the Gardeners Monthly.

MESRS. EDITORS—How many questions in the Nursery business want elucidating to get at facts and establish results?

For instance, it is a mooted point whether roots packed dry or wet will endure freezing in packages with most impunity. I find as many holding the one opinion as the other.

A brother Nurseryman speaks of a curious fact in his experience. It is that apple roots exposed a few days to the air in a way not to kill them—say in rather moist weather—will, after that, bear any amount of freezing and thawing with comparative impunity.

He says the roots become measurably like the branches, and yet do not lose their power to throw out new roots. If this be a fact, it could certainly be made useful as a mode of preparing roots for safe winter transportation.

When shall we have State or National

Horticultural Institutes for the purpose of testing varieties and modes of treatment?

F. K. PHENIX.

Bloomington, Ill., Nov. 26, 1864.

Will some of our readers who have had experience in this line please give us results?—(Ed.)

Buffalo, Dec., 1864.

Or late a new impulse has been given to the cultivation of the grape in this part of the State. The Isabellas and Catawba are now mostly discarded as ripening too late for our ordinary seasons. This year, for the first time in many years, in some localities, they have ripened perfectly.

The Delaware, Hartford Prolific and Concord, all prove very fine, and succeed well. For our careless, heedless cultivators, the two last named are perhaps the best; for they will succeed well, even when quite neglected. The Delaware requires more care and a richer soil. It is perfectly hardy and prolific, and when well established, even producing large crops of the most choice fruit. The fact is, the Delaware and other new sorts have often been grown from very feeble and worthless wood, which has rendered the plants quite worthless. Many such plants have remained stationary for two or three years.

The Creveling ripens early, and is of fine flavor, and withal, grows finely; but its open, straggling bunches, I fear, will damage it as a market grape. The Adirondack, Iona and Isabella comes to us so highly recommended that we have great confidence in them.

David Thomas, the late celebrated Horticulturist, &c., said the grape never mildews when running over a living tree. Such is the fact. An Isabella grape-vine has mildewed badly for several years. Two years ago I trained the vine over a plum and also a pear tree that stood near. The fruit on that part that runs over the trees is all free from mildew, and truly fine, whilst on some of the lower branches the fruit is worthless.

B. H.

Middlebury, Vt., Sept. 30, 1864.

MESSRS. WOODWARD,—

I send you the specific gravities of freshly expressed grape juice, all fully ripe, except Isabella. Such tables are desirable in determining the value of grapes for wine.

Delaware	1104	Adirondac	1080
Lyman	1084	Concord	1076
Weeks	1060	Isabella	1056
Water being.....			1000

Yours truly,

H. A. SHELDON.

Fox Creek P. O., St. Louis Co., Mo., }
3rd December, 1864. }

MESSRS. EDITORS:

Sirs.—The following officers were elected at the annual meeting of the Meramec Horticultural Society, held on the 1st December, 1864:

President, Wm. Harris, Allenton; Vice Presidents, L. D. Votaw, Eureka, Jas. L. Bell, Eureka; Recording Secretary and Treasurer, Wm. Muir, Fox Creek, P. O.; Corresponding Secretary and Librarian, T. R. Allen, Allenton; Executive Committee, Dr. J. B. H. Beale, P. M. Brown, and L. D. Votaw, Eureka; Fruit Committee, Dr. J. B. H. Beale, Wm. T. Essex, T. R. Allen; Flower Committee, A. Fendler, Jas. Cornwall, John Letcher; Vegetable Committee, L. D. Votaw, R. A. Lewis, B. F. Jacobs, all of St. Louis Co.

I am sir,

Yours, most respectfully,

WILLIAM MUIR.

OHIO SORGO ASSOCIATION.—The regular Annual Convention of the Ohio Sorgo Association, will be held in Columbus, O., at Gill's Agricultural Hall, on Tuesday, January 3, 1865, commencing at 10 A. M. The attendance of all interested in the Northern Cane Enterprise is earnestly solicited.

Committees will be appointed to examine and report upon syrup, sugar, and any other products of the cane that may be present-
ed.

Members of the Board are requested

to meet at the Neil House in Columbus, on Monday evening, January 2d, 1865.

Wm. CLOUGH, President.

JOHN L. GILL, Jr., Sec'y.

FIRE IN BEDROOMS.—Most people, even many intelligent reformers, have the idea that to sleep in a cold room is good—essential to health. It is an error. It is better to have an open fire in your bed-room. The atmosphere is not only by this means constantly changed, but with the fire you will keep the window open, which will add greatly to the needed ventilation. But more than this, with the fire you will have fewer bedclothes over you, which is a gain, as a large number of blankets not only interfere somewhat with the circulation and respiration, but prevents the escape of those gases which the skin is constantly emitting. Even furnace or stove heat with an open window, is better than a close, cold room. Interchange with the external atmosphere depends upon the difference between the temperature of the air within and that without. But let us have the open fire. Let us go without silks, broadcloths, carpets, and finery of all kinds, if necessary, that we may have this beautiful purifier and diffuser of joy in all our houses. In my own house I have ten open grates, and find with coal at eleven dollars the expense is frightful, and if it were in any other department of housekeeping I should feel I could not afford it; but in this I do not flinch, so important do I deem the open fire.—Dr. Lewis.

THE CLINTON GRAPE.—Prof. NORTH, of Hamilton College, in an Agricultural Address, gave the following account of the origin of this grape, which is placed on record for reference:—The "Clinton Grape," described in our standard fruit books with no account of its history, was so named from our village, and originated in the horticultural amusement of a student of Hamilton College. The original Clinton grape vine is growing over a tall elm on the east side of Dr. CURTIS's house, on College Hill. It was planted there in 1821, 43 years ago, by

HUGO WHITE, of Cohoes, then a Junior in College. Having a fondness for gardening and tree culture, he planted a quantity of grape seed two years before, in his father's garden in Whitesboro. Out of the many hundreds that came up, Mr. WHITE selected one that looked more promising than the others, and planted it east of the house of Dr. NOYES, with whom he then boarded. This seedling vine proved to be a rampant grower, and wonderfully productive; with bunches long, compact, quite uniform, with berries small, a very dark purple when fully ripe; quite palatable early in September, yet improved in flavor by the frost. As a grape for making wines and jellies, the Clinton is quite a favorite in latitudes where the Catawba will not ripen. It has come to be a popular grape with the masses, who have no special objection to a little foxiness, when the vine is so thoroughly hardy, and the crops so unfailing and abundant. It is the glory of the Clinton grape, that it takes care of itself, and asks no odds of any one. The more you let it alone, the more abundantly it bears.

BOOKS, &c., RECEIVED.

HOW TO GET A FARM, AND WHERE TO FIND IT.—A new work, by the author of "Ten Acres Enough." Just published by James Miller, 522 Broadway, N. Y. Price \$1.75.

When "Ten Acres Enough" was published, it was very generally criticized by the press, as an advertising medium for bringing into notice the new settlements and extensive tracts of unoccupied land in Southern New Jersey, the advertisement in the back of the book being apparently of more consequence than the name of a responsible New York publisher.

However, merit will make itself known. "Ten Acres Enough" is a book that more than one popular writer would be proud to have attributed to him. It is a plain, honest, straight-forward and gracefully written statement of actual facts in the successful culture of ten acres of land, lying between the all consuming and never satisfied mar-

kets of New York and Philadelphia. Ten acres of land "literally manured with brains," by one who has got the brains to do it. The book will wake up our old foggy farmers, and the man who puts the question now "will farming pay?" has got his answer.

HOW TO GET A FARM AND WHERE TO FIND IT, is a book that every one in search of a farm would find profitable to read, and those who are looking about for a permanent life-long pursuit, will find something that will set them thinking if they will read this in connection with "Ten Acres Enough."

Where to find a farm is very difficult advice to give, and more particularly as such advice would not be considered sound by those not occupying the localities referred to. No one is so poor in this country but he can some day acquire the title to a handsome farm, if he possesses the requisite energy and determination to earn it; without capital and without friends the possession of real estate is a possibility with every industrious man, and we are glad to see a work which gives such valuable information on this subject.

We should like to have seen more space given to the West, a section of country that we are very justly in favor of, although we own and cultivate a handsome farm in the State of New Jersey. Ten years spent on the broad rolling prairies of the West has only more fully confirmed us, that if farming was our exclusive business, we should push for the West on the first express train. Still a man who cannot make farming pay in almost any section of this fertile land can never make anything else pay. He must be one of that kind who do not take agricultural papers, and has no library of professional books; he belongs to that class of men constantly falling behind the current intelligence and enterprise of the age we live in.

OUR FARM OF FOUR ACRES.—James Miller, 522 Broadway, New York, has just published another edition of this popular little book, reprinted from the twelfth

London edition, and adapted to American readers, which gives, in a very readable and interesting form, the experience in cultivating four acres of land in the vicinity of London, and the money made by it. The authorship has been attributed to Miss Harriet Martineau. Price, handsomely bound, large type and heavy paper, \$1

THE TAILOR BOY, an interesting book for boys. It purports to be the boyhood of Andrew Johnson, and shows how, as a fatherless boy, without a chance for education, he rose from the grade of a tailor's apprentice, by his integrity and sound principles to his present high position. Published by J. E. Tilton & Co., Boston, and for sale by Messrs. Hurd & Houghton, No. 401 Broadway, N. Y.

THE LIFE BOAT, published by J. E. Tilton & Co., Boston, as its name denotes, is a Tale of the Sea and of Wreckers along the coast. It shows the value of the life boat, and gives account of perils and escapes which are full of adventure. Messrs. Hurd & Houghton, No. 401 Broadway, N. Y., are the New York agents for Messrs. Tilton & Co.'s publications.

THE HYGIENIC COOK BOOK, by Mrs. M. M. Jones. Published by Miller & Browning, 15 Laight St., New York. Price 30 cents. Contains many new receipes and suggestions, and teaches all the most wholesome manner of preparing food.

OUR FARM OF FOUR ACRES, and the Money we Made by It. Another edition of this work has been published by Orange Judd of the American Agriculturist, 41 Park Row, N. Y.; price, thirty cents in paper covers; sixty cents bound in cloth. One of the best evidences of the merit of this work is, that the regular standard demand has induced two of our New York publishers to put forth distinct editions. Those who have not read the work had better procure it, the time will be profitably spent in its perusal.

DORA DARLING, OR THE DAUGHTER OF THE REGIMENT, published by J. E. Tilton & Co., Boston, is a suitable book for the young, who will read it with good relish. It is a very pleasant story, and portrays a little heroine indeed; full of courage and resolution, yet graced with innocence and sweet womanly dignity. Pieter or Epicetus is an interesting personage, and a true negro. The other characters are equally well drawn. The whole tale is animated, and unflagging in its interest to the end.

AN ESSAY ON THE CULTURE OF THE GRAPE IN THE GREAT WEST, by Geo. Husmann, of Hermann, Missouri; price twenty-five cents. This little work covers nearly all requirements necessary in the cultivation of the native grape at the west, where, in many respects, some of our leading grapes develop distinct features. In the favored soil and climate of Missouri grape culture promises to become an interest of the first importance. Mr. Husmann was the pioneer of grape culture there, and enjoys the confidence and esteem of all who know him.

GENESEE FARMER, published monthly, at Rochester, N. Y., by Joseph Harris, at One Dollar per annum. To one who desires to be thoroughly read up in every department of agriculture it is difficult to say which one of the different agricultural papers might be dispensed with. Here is one published in the famous valley of the Genesee, and ranks among the oldest of the agricultural press; conducted with ability and energy, it is a desirable paper in any home.

RURAL NEW YORKER, published weekly, at Rochester, New York, by D. D. T. Moore, Esq., at Three Dollars per annum. This paper gives full information on the Sheep and Wool interests of this country which department is under the charge of Hon. Henry S. Randall, well known as the author of several popular works on this subject. Agriculture and Horticulture

receive thorough attention, with liberal illustrations. One-half of the paper is devoted to farming and gardening interests, and one-half to family reading matter. It is a large sized sheet, and has long been a popular and desirable publication. It is conducted with energy and spirit and has a deservedly large circulation.

CALIFORNIA FARMER. From the shores of the Pacific, and from a state that is golden in more senses than one, we receive, weekly, one of the most enterprising sheets that is published. If there is anything calculated to make a Horticulturist uneasy it is to read the glowing accounts of fruit culture in California. It seems to be the Paradise of fruit-growers, and agriculturists. Grapes that we grow here with great care under glass, thrive better in the open air of California. Cattle and horses are pastured the year round, and the earth brings forth its increase with most astonishing results. Let us build the Pacific Railroad without delay; give us the broad gauge palace parlor cars and a six day's trip across the continent, and we can visit California between the publication of our monthly numbers.

The California Farmer is published at San Francisco, at Five Dollars a year, and those who wish to keep up with progress on the Pacific shore should take it.

THE PRAIRIE FARMER, published at Chicago, by Emery & Co.; Weekly, quarto, 16 pages. Two dollars per annum. This paper is devoted to the farming interests of the West, and is among the oldest of the Agricultural Journals of the country. Farming on our Western Prairies is carried out on such an extensive scale, and by the use of machinery in almost every department, as to separate it from the usual farm routine practised in the narrow limits of fences, stumps, and stones, of some of our older States. The field of the Prairie Farmer is a broad one, and the agricultural interest it represents is progressive, wide awake and successful. This Journal is a desirable one for all who wish to be posted on the pro-

gress of a section of our country, destined to lead all others in its agricultural importance and wealth.

OHIO FARMER, published weekly, at Cleveland, Ohio, at two dollars and fifty cents. S. D. Harris is the well-known agricultural editor, and he takes good care that his department is fully up to a high standard of merit. We doubt if there is another agricultural editor in the country so well informed about current events;—one day in Ohio, next among the grapes in Knox's vineyard, then among the sheep in Vermont, the nurseries of Rochester; posting himself on the wool-markets of New York, Boston and Philadelphia; wide awake on all subjects in his line, he stops at nothing; and neither expenses nor time frighten him when in pursuit of information for his readers. If the 40,000 farmers of Ohio and as many more outside of the State, would take the Ohio Farmer, they would benefit themselves vastly.

GREENVALE NURSERIES, Murray Street, Oswego, N. Y. Wholesale price list for Autumn, 1864. W. D. Strowger, General Agent, Oswego, N. Y.; Eben Mason, New York agent, No. 12, Barclay Street N. Y.

CATALOGUE OF THE HERMANN NURSERY, near Hermann, Missouri. The death of Mr. Manwaring by the hands of guerillas dissolves the partnership of Husmann & Manwaring, proprietors of this Nursery, the business of which will be continued by George Husmann. The catalogue is very full and complete, comprising every variety of stock found in extensive nurseries.

THE FIELD AND GARDEN VEGETABLES OF AMERICA, by Fearing Burr, Jr., is nearly ready. Meers. J. E. Tilton & Co. write us that it will be a splendid work. More illustrations and more information than the former edition. The last edition was a work of great labor and merit; it is very far ahead in character and ability of any other work published on this subject.

HITCHINGS' PATENT BOIL HOT WATER APPAR

AND IMPROVED

FOR WARMING AND VENTILATING

GREEN-HOUSES,

GRAPERIES,

CONSERVATORIES,

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and Rural Taste.



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THE
HORTICULTURIST.

VOL. XX.....FEBRUARY, 1865.....NO. CCXXIV.

THE WEST.

COMPARATIVELY few of the citizens of the New England and Middle States have any adequate conception of the extensive agricultural resources, and the general capabilities in all directions of wealth and material prosperity, which belong to those States of the West that border on the great chain of Lakes, and are watered by the Mississippi and Ohio rivers.

There is no exaggeration in saying that among the best educated and most intelligent men of the East, who have never traveled through the Great West, there exists a deplorable ignorance of all facts concerning this region—geographical, statistical, agricultural and economical, and this ignorance is not unfrequently accompanied with a perverse incredulity of plain and unvarnished statements of rapid, yet substantial growth. It seems almost impossible to bring this class of mind to comprehend and appreciate their grand systems of internal improvements, the comparatively inexhaustible fertility of their soil, the facility with which it is brought under cultivation, and the manner in which machinery is employed, in place of manual labor, in planting, cultivating and harvesting.

If we go back twenty-five years we find the Prairie States an unoccupied paradise, and the sites of their present prosperous and rapidly-growing cities but just indicated. If we look at these States to day, we find them literally interlaced with railroads, settled by an industrious and enterprising class of men—for it is only the enterprising men that break away from the old hearthstones—their cities, their villages, their farms, their commerce, all indicating a growth and progress which, though unparalleled in rapidity, are substantial and permanent.

New York city adds to its population every thirty months, and buries every six years, a number equal to the present population of Chicago, yet Chicago has grown, in about twenty-five years, to a size which required more than one hundred and fifty years, from its first settlement, for New York to attain. And, at this moment, Chicago equals New York in the magnificent architectural construction and effects of some of its public and private edifices—some of its churches and commercial buildings. Cities like Chicago, Cincinnati, Louisville, St. Louis, Detroit, Cleveland,

Milwaukee, and others, in their wealth, the extent of their business, and their highly prosperous and progressive appearance, are certain indications of the wealth and resources of the country behind them—a country as yet very far from its full development, but advancing steadily and surely to a position little dreamed of by those who cultivate patches of sterile soil among the rocks of our Eastern hill-sides.

In an article of this character it is scarcely possible to do more than allude briefly to the resources and capabilities of the West. We do not propose to furnish an array of statistics on the subject. To do this adequately would require more space than we can spare. We can only deal in generalities, and furnish a few facts which cannot fail to interest our readers. It is obvious enough, then, that nature has been lavish of her gifts to the West, and that enterprise and industry find there ready and remunerative returns. In the few years since this region was first opened to our hardy frontier settlers, the course of trade and the statistics of commerce demonstrate how indispensable the products of the West are to our Eastern cities and to the inhabitants of Europe. Cut off the supplies of grain and beef which they send us, and the results would be immensely serious, both at home and abroad. New York would receive an immediate check to her prosperity. The consumer here cannot now be made to believe that the supply is at all adequate to the demand. He sees no evidence whatever, in quantity or price, to indicate an over-sufficiency. A glut of the provision market is an unlooked for boon. The products of the great agricultural West are either below the demand, or the lines of transportation very deficient. The wholesale prices of corn differ nearly a dollar per bushel between Chicago and New York markets. New York, that adds one hundred and fifty every day in the year to its permanent population, must be fed, and the West must do its share of the supply. Overstocking the market is an absurd apprehen-

sion. All efforts in this direction have resulted only in increasing the demand and consequently in enhancing the prices.

Twenty years ago a single cultivator of grapes monopolized the New York market, and received barely six cents per pound for his crop. To-day he has more than a thousand competitors, and he receives eighteen cents per pound for the old varieties, while others who supply superior kinds of native grapes, command from forty to fifty cents, and these values are but very slightly due to the change of currency, as prices had advanced nearly or quite to these figures before these changes occurred.

Twenty-five years ago, with only one or two short lines of railroad connecting the Eastern cities with the producing inland region, the prices of provisions in the New York Market were very low. There has been a regular and steady advance ever since, which the construction of a vast network of railroads, into every producing portion of the country between the sea coast and the Mississippi, has not been able to check. The surplus products of whole States have been forwarded into our market without producing a sensation—on the contrary, the demand has increased every year, and the prices have steadily gone up, to the great astonishment and alarm of the consumer.

But the most egregious misconception regarding these things, and the interests and relations of the Great West, in the minds of untraveled and uninformed men, is the supposed want of a market for her affluent productions. Corn at a shilling a bushel undoubtedly pays better when used for fuel, than when transported to the Eastern market. But intelligent Western farmers are not slow in learning that one production can be converted into another with profit. Forage crops and grain pay a better profit, some years, in the form of beef, pork, mutton, wool, &c., while the small comparative capital required to work a western farm—the whole original cost of which is less than the annual cost of

manuring an eastern farm—is a compensation for transportation expenses.

When the large demand upon the East for sugar, preserved fruits, and other articles which can be produced there even better and cheaper than here, shall in some measure cease; when the home demand shall be abundantly supplied—for prices now in the West, for all descriptions of products are by no means moderate—then, if the markets of the world do not require the surplus of the Western States, we must of course extend to them all the sympathy that a country groaning under intestine wealth could desire. Brother farmers of the West, let us know when your sufferings commence!

To the importance of fruit growing, and other branches of horticulture, the West, and more particularly, the State of Illinois, is keenly alive. The Horticultural Society of that State is a thorough-going, energetic institution. Composed of the leading men of the State, it is doing a work that will yield valuable and permanent results. Practical information on this subject is becoming generally diffused, and now that the Pioneer has passed through the incipient stages of progress, the comforts and luxuries of life demand his attention, and under the stimulus of his generous and earnest enthusiasm, fruit culture will be advanced to one of the leading interests of the West.

The grape promises to become a very important addition to the wealth of the whole country, and the soil and climate of the West are admirably suited, as will

doubtless be found by judicious experiment, to some of our new leading varieties. We could cite numerous instances coming within our personal knowledge of successful and profitable results, even in what would be regarded as unfavorable sections of the West, and we predict that the time is rapidly coming when a vineyard on every farm will be considered of even greater importance than the orchard. The culture of the vine in our country is an interest well worthy of a much greater attention than it has, as yet received. There is an abundant and profitable harvest in this branch of culture awaiting the reaping.

Our main object in this article has been to call attention, in a general way, to the resources of the West; the almost universal fertility of the soil, the low price of land, and the great ease of cultivation, the great diversity of climate, from Southern Illinois and Missouri to Northern Minnesota; the general healthfulness of all the Western States, the rapid settlement and development of the country, by means of increasing lines of internal communication; the beauty, prosperity and activity of their cities; the intelligence and enterprise existing among all classes of Western men, and at the same time, the surprising ignorance on all matters relating to that region, among Eastern people. We shall have gained our object if we have succeeded in stimulating enquiry on these subjects among our readers.

TREES AND SHRUBS OF BEAUTY FOR A PLACE OF SMALL EXTENT

CLINTON, N. Y., Dec. 19th, 1864.

MESSRS. EDITORS:

Gentlemen:—We have in this place a society of gentlemen under the name of the "Clinton Rural Art Association" which has been in existence eight or nine years, during which time the Association has almost, without fail, held its regular monthly meetings with seemingly increasing interest to those connected with it. At these

meetings, which are held in catalogical order at the several residences of its members, some subject connected with rural art is discussed. One of its members opening the subject, and each one present being invited to take a part in the discussion of the subject of the evening. Another object constantly held in view is the planting of trees along our streets and highways.

For this purpose a committee is annually

appointed. One of the duties of this committee is to request persons to plant trees along the streets in front of their own land, where, for any reason this is not complied with, the Association plant the trees, paying the expense from a small fund raised among its members in each year. The working of this Association has been to promote a pleasant social intercourse among its members, a constant increase of fine shade trees around us, an increased interest in the subject of adorning our homes, and a diffusion of a large amount of information on various subjects connected with rural art. I enclose you an essay read by Prof. North of Hamilton College at one of its late meetings.

The subject of the evening being "TREES AND SHRUBS OF BEAUTY FOR A PLACE OF SMALL EXTENT."

When we speak of a shrub we think of something midway between an herb and a tree. A tree is perennial with a solitary trunk that grows large and tall. An herb is low growing with soft stems that die down to the root each autumn. The shrub is a bushy plant with many woody stems, seldom growing more than eight or ten feet high. Few things in the vegetable kingdom interest us more or are more worthy of our interest than shrubs. As we advance in years, or take up heavier burdens of daily care, we are apt to grow weary of the pretty coquetish annuals that cannot be weaned and are doomed to fall before the first frost in autumn, we prefer to plant shrubs that will remain in their places from year to year so that we form a sort of friendship with them as individuals and enjoy their companionship as each returning spring quickens them into fuller habit and a larger wealth of leaves and blossoms. Shrubs seem nearer to us—more tractable and more companionable than the stiff tall trees. We look up to the trees with gratitude for their shadows and fruit, and with a sort of reverence as something higher than we. The shrubs belong to our caste; we feel quite easy and at home in their society as we do when visiting cousins. In talking about

shrubs it will be a convenient arrangement to classify them according to their size, habit and uses. We shall find that some shrubs are suitable for the lawn and others for the border, some for hedges, and others for the wilderness or shrubbery.

Shrubs that are perfectly hardy so as to need no protection in winter and grow to be six or eight feet high are appropriated for the lawn.

It is melancholy to see how many disastrous mistakes are made in the planting of shrubs in a lawn. As the unwedded Celtic mother thought her sin could not be very great when her baby was such a little thing, so the planter often thinks it of no great consequence when he plants so small a thing as a shrub. Not realizing what the future is to bring forth he plants his shrub near to the walk or the drive, or between his parlor window and a fine waterview. But every year adds to the height and breadth of the shrub, and finally it crowds up the drive, tears veils and scratches faces in passing carriages, or shuts out some picture in the landscape that you value as much as you would a Cuyt or a Cole or a Bierstadt on canvass. Then you have it on hand to decide whether you will acknowledge your error by removing the impertinence or allow it to stand for the annoyance of yourself and others. A planter should be an artist with a prophets' vision looking far forward into the future and competent to produce something of present beauty that shall continue to grow in fullness and completeness as the years go by.

If an experienced planter were called upon to select the six shrubs most suitable for a lawn of moderate size, his task would be a little puzzling. There would be many candidates with claims not to be denied and hard to be resisted. Beyond a doubt the *Syringa Grandiflora* would be one of the elect six. This is the most showy of all the *Syringas*. It blooms two or three weeks later than the common variety, and the blossoms are very large but not fragrant.

The Upright Honeysuckle is entitled to a place in the smallest collection. Few

shrubs can be found with foliage, habit, and blossoms, more suitable for the lawn. It flowers profusely in the spring, and from midsummer to autumn is adorned with numerous crimson berries which the robins are fond of gathering. The Weigela Rosea is less common than the Honeysuckles, but equally beautiful and desirable for the lawn. This is one of the new plants that was sent to England from the north of China by Mr. Fortune about 20 years ago.

In describing the Weigelas, poets would call it "lush and lusty." It is a gaudy, Dutch-built shrub, "buxom, blithe, and debonair." It has tubular flowers of a delicate rose color that hang in loose clusters at the end of each little side-branch. As a fourth on our list of shrubs for the lawn I would name the Smoke Plant or Fringe Tree—*Rhus Cotinifolia*. From July to October it is covered with purplish or brown seed plumes that render it uniquely beautiful. The French call it the Tree Perewig (*Arbre à Perruques*). To me it looks more like a cloud dropt down from the evening sky with a faint tinge of sunset lingering about it.

The Lilacs should not be overlooked. All varieties of the Lilac are beautiful and some of them are comparatively rare. The white Lilac makes a taller growth than the other varieties, and a good effect is produced by bedding upon this, the Josikaea and Persian Lilacs. The contrast between the white and purple blossoms growing on the same stems belong to what may be called sensation gardening. I have tried this trick and would commend it to others. M. Andre Leroy, of Angiers, France, grafts the Lilac on the common ash.

Thus treated it forms a handsome bushy head and flowers finely, and there is no annoyance from suckers. What shall we select for the sixth and last shrub? Shall it be the Barberry, with its graceful sheaf-like top and useful fruit? or the *Cornus Florida*, with its striking flowers and the rich tints of its autumnal foliage? or the Chinese Magnolia, so superbly elegant when planted near the house with a few evergreens to back it? or the double flowering pink Haw-

thorn, with blossoms that look like miniature roses? or the Burning Bush, with red berries that hang on till spring and give a cheerful look to the lawn in winter? or the Red Bud Judas Tree, to remind its master that he is liable to be betrayed even in the embellishments of a lawn? or the Crimson Dogwood, *Cornus Sanguinea*, with numerous shoots that turn deeply red towards the end of winter which time the reddening combe in the poultry yard show the coming of fresh eggs for Easter breakfasts? or the Buckthorn, that is equally true to its position as a common soldier in the hedge row or a staff officer on the lawn? or shall it be the English Alder, as a tribute to the home of Shakespeare? or the Bladdernut, sure to be voted for by the Romanists who use its seeds for Rosaries? or the Hop Tree, *Ptelea Trifolia-ta* that would be voted for by housekeepers if they knew how much good leaven there is in its seed wings? The easier way to settle this question, will be to have a larger lawn and take in more shrubs.

There is another class of shrubs, smaller in size, and some of them half-hardy, that belong to the cultivated border.

If carefully selected they will furnish a succession of blooms from April to October without the never ending care incident to the culture of annuals. The Daphne Mezeum is about the first plant that blossoms in spring. It is earlier than the Crocus, and its little pink flowers are highly ornamental. There is also an autumnal variety that should be found in a full collection. Soon after the Daphne, comes the Japan Quince that is brilliant, but not hardy, and as a shrub not altogether tractable. The Shad bush or June berry is densely enveloped with white blossoms in early May, the season of fresh shad, and is worthy of more attention than it has yet received from ornamental planters. Its purplish edible fruit is ripe in June and is the very earliest of all our berries that are fit for culinary uses. The Shad bush can be grafted on the apple or pear, but is more thrifty when grown from its own roots. The *Dentzia Gracilis* has no superior among all the shrubs of the

border. Its abundant spray is so fine and lithesome that the white flowers are worked into bouquets as easily as annuals. It must be covered with turf in winter. The Deutzia Scabra should be discarded from all but the larger collections. It must be protected in winter and the stems are so brittle that they cannot be bent without breaking. The Spiraea are the John Smiths of the garden. As to merit they are good, bad and indifferent, and through their suckering propensities are so prolific and irrepressible that it will require some industry and nerve to keep them within reasonable limits.

The Missouri Currant, to which the hummingbird early resorts to obtain its sweets, is good to perfume the garden in May, and beside it should stand its crimson flowered sister.

The Indigo shrub will repay the care it costs, although it is tender and needs to be covered in winter.

The Calycanthus is equally remarkable for the dark brownish purple of its flowers and their pleasant pine apple fragrance. This shrub is not often met with because tender and difficult to be cultivated. The Altheas or shrub Hollyhocks bloom as late as September, when they are less highly prized because eclipsed by the more brilliant annuals.

Something ought to be said in behalf of the Kalmias and Rhododendrons, but as I have had little experience in the cultivation of these shrubs I leave the presentation of their claims to others. In speaking of shrubs placed in hedge rows one hardly knows where to begin. A hedge is a good thing—when you have a good hedge. The samples we meet with in our daily walks are apt to be defective or out of place, or made of unsuitable shrubs. What can be the motive for cumbering a lawn twenty feet square with a privet circle that is always in the way and half dead at that? We often see privet hedges in cemeteries that are dead and brown in patches and which ought not to be there even if they were hardy and green. We see Osage Orange

hedges beside the road always dead at the top, untrimmed, ferocious looking, while keeping a piratical watch over all sorts of weeds. Even Hawthorn hedges are a failure in this country. For a hedge to turn cattle we have nothing better than the Buckthorn and need nothing better. It is hardy, handsome, easily grown, easily managed, patient of the shears and long lived. Just now interested parties are stunning the public ear with appeals in behalf of the Honey Locust, or three thorned Acacia for a hedge plant. Nature intended the Honey Locust for a tree, and nature's intentions are not so easily defeated as some men seem to think.

The man who surrounds his fields with Honey Locusts in the expectation that they can be kept loyal to the humble condition of hedge plants, should retire from other cares and devote himself to the shears. For ornamental hedges that are not relied upon for turning cattle, there is quite a choice of suitable shrubs.

The American Arbor Vitæ and the Hemlock are most admirable for this purpose, and are deservedly gaining in the popular favor. The Japan Quince would make a brilliant flowering hedge were it not too tender for our latitude. The Crab Apple works into a hedge so gracefully, and is so easily raised from the seed, that we wonder it is not oftener used for this purpose.

The Bush Honey Suckle makes an ornamental screen and is raised from cuttings as easily as the privet and currant.

For an evergreen hedge the Mahonia is highly praised by those who have tried it. A recent writer, whose name I cannot now recall, says that the Mahonia is the greatest acquisition that the garden has received during the past quarter of a century.

Every garden of sufficient size should have a retired corner devoted to the wilderness or shrubbery. Here art resigns her sceptre and nature is allowed to play the romp. Here the refuse shrubs from the lawn and the border, the lame, the crooked, the irrepressible suckers, are planted thickly and without plan so as to produce a minia-

ture forest. Here hiding-places are furnished for the impudent cat-bird and the whip-poorwill. Here the privet protected by its fellow shrubs, will grow luxuriantly with an abundance of milk-white blossoms. Here the children will go to gather hazelnuts in October. Here we shall have a living illustration of Edens border.

"Where delicious Paradise,
Now nearer, crowns with her inclosure green,
As with a rural mound, the champaigne head
Of a steep wilderness, whose hairy sides
With thicket over-grown, grotesque and wild.
Access denied; and overhead up grew
Insuperable height of loftiest shade,
Cedar, and Pine, and Fir, and branching Palm,
A sylvan scene, and as the ranks ascend
Shade above shade, a woody theatre
Of stateliest view."

(Par. L. Lib. 4.)

GRAPE CULTURE AT THE WEST—OUR LEADING VARIETIES.

BY GEORGE HUSMANN, HERMANN, MISSOURI.

As I think it may not be uninteresting to your readers to hear how we, in the midst of war, are getting along with grape culture, I take the liberty to send you a short report of our doings.

We are progressing, slowly it is true; on account of rebel raids, scarcity of help and a feeling of insecurity which prevails here in Missouri, but nevertheless steadily; and if our Eastern brethren will take into consideration that we must spend half of our time in scouting after guerillas and fighting the rebels, often at a time when it is very inconvenient to leave our vineyards and farms, they will not wonder that our progress is slow. But such are our natural advantages over you at the East, that we get, nevertheless, very fair returns; and if we do succeed, as we are determined we will, in making Missouri a free State, we look forward to a glorious future. Last winter about one hundred acres were planted in and around Hermann with vines, and as many more will be planted next spring. The last very destructive winter killed most of the fruit buds on the vines, yet the vineyards gave fair returns, and paid us fully for our labor, and the new wine is bringing a very good price. Catawba is selling now at \$2 50 per gallon and Norton's Virginia at \$5 00 per gallon, and our Concord, when any is to be had, readily brings from \$2 50 to \$3 00 per gallon. Norton's Virginia and Concord are a sure crop every year (except such excessively

cold seasons as the last,) and will pay at the rate of \$1000 to \$1500 per acre. If we take into consideration the vast area of lands adapted to grape growing in this State, and the trifling cost of it, it is surprising, indeed, that people will persist in planting grapes at the East when they can be grown at half the cost and so much better here. I refer, of course, to new beginners, those who are on the look-out for grape locations, who can buy the best of grape lands here at an average cost of from \$6 to \$10 per acre where they have to pay as many hundreds at the East. Besides, we have a much longer summer, consequently can make better wine than you can at the East, we can grow a greater variety of grapes, and the West must consequently become the great grape growing region.

OUR LEADING VARIETIES — NORTON'S VIRGINIA.

To make a dark red wine of the character of the best Port or Burgundy has long been the aim and object of our wine growers, and for this purpose this noble grape stands as yet without a rival. Add to this its adaptability to any soil, be it the rich alluvial bottoms of our rivers or the sterile southern slopes, its healthiness, hardiness and luxuriant growth, and we need not be surprised that the demand for the plants is far in advance of the supply. About 50,000 of the roots have been shipped from this place during the month of November, and the supply is nearly exhausted. It is

not as large a producer as some varieties, but it will, with fair culture, average 400 to 500 gallons per year per acre, which is much more than the Catawba will do, and the wine will find a much more ready market at double the price. It is truly invaluable, and as a medical wine our doctors cannot dispense with it any more, as a remedy for dysentery, summer complaint in children, etc. Its only drawback is that it is very difficult to propagate, as cuttings will not grow under common treatment.

THE CONCORD.

This is truly the "Grape for the Million," and if you take into account its many good qualities, its health, luxuriant growth, easy propagation, productiveness, early bearing, fine size and fair quality we cannot wonder at its being the universal favorite. Acres upon acres are planted every year, and it will soon completely supplant the Catawba here. As an example of its profitableness let me insert an account I have opened with a small piece, one-third of an acre:

COST.

1861. 400 small plants at 25 cents each.....	\$100 00
Preparing ground, planting and attendance	50 00
1862. Labor during summer.....	50 00
Making trellis.....	100 00
1863. Labor and attendance.....	75 00
1864. Labor and attendance.....	80 00
	<hr/>
	\$455 00

PRODUCT.

1861. 1300 summer layers at 13 cents each.....	\$169 00
2000 cuttings, \$12 per 1000.....	24 00
1862. 7000 layers at 10 cents.....	700 00
8000 cuttings, \$10 per 1000.....	80 00
1863. 2000 lbs. grapes, 16 cents, netted.....	320 00
30,000 cuttings, \$10 per 1000.....	300 00
1864. 2040 lbs. of grapes, 24 cents, netted.....	489 60
40,000 cuttings, \$10 per 1000.....	400 00
	<hr/>
	\$2,482 60

The product last summer would have been much greater had not the extreme cold of last winter destroyed a great many fruit buds, and I think that the same piece of vineyard will furnish at least 5000 lbs. of grapes the next season. I also planted the 30,000 cuttings made in 1863 myself, and grew from them 20,000 splendid plants which are worth now, at the lowest calcu-

lation, \$2,600. Deduct from this cost of cuttings, labor spent on them, etc., would leave \$2,100 for the plants, which could be added to the product, making it \$4,582 60 from a third of an acre during four years, and these being the first of course the product of fruit will be much greater the following seasons. You at the East, as I know from experience, do not know what a really good Concord grape is, such as we grow; but if you favor us with a visit at the next meeting of the American Pomological Society at St. Louis, we hope to show it to you and convince you on the spot.

THE HERBEMONT.

This is a truly glorious grape here where it fully ripens, and your acid Herbemonts at the East can no more be compared with our Herbemonts than a choke pear to the luscious Seckel. It is an enormous bearer, with close, compact bunches, berries nearly as large as your Catawbas, and truly its berries are delicious bags of wine. Had you seen my vines last fall bending under their load, 60 to 70 bunches each, many of the bunches weighing a pound and a half each, you would have thought it was well worth the little labor of covering every winter, which it also lately requires. It is a very strong, healthy grower, makes an excellent wine, which sells readily at \$3 00 per gallon, and plenty of it. In every respect desirable here, but rather particular as to soil and exposure, as a high, dry, somewhat stony soil suits it best, and it will not succeed in damp, rich soil.

THE DELAWARE.

This, I am sorry to say, does not succeed so generally here as at the East: it is subject in most locations to leaf blight. Some of our cultivators, however, succeed well with it, especially when grafted on other stocks. The best vine I know of in this neighborhood is grafted on a Norton's Virginia. It makes a fine wine, with little acidity, and good body. We have not given it up yet, but could not recommend it here for general cultivation.

THE CATAWBA.

For courtesy's sake I must mention this old staple variety, which would be an excellent wine grape were it not with us liable to so many diseases. It is consequently but little planted now, although the bulk of the old vineyards we have are of that variety. It will pay very well for the labor expended upon it, but when the Concord and Norton's Virginia will pay treble the amount, of course our vintners prefer planting that which is most profitable.

These are the varieties of which the most of our new vineyards are now planted, and which are fully tried. We have a great many others promising very well, but follow the principle that to decide on the full merits of any one variety it should at least be tried for a period of ten years. I will name a few of those which are very promising:

For red wine.—Clinton, Cynthiana, Arkansas, Devereaux, Alvey.

For white or light colored wine.—Cassady, Taylor, Louisiana, Rulander.

For sweet wine.—Cunningham.

For table and market.—Hartford Prolific (this is quite good here, and does not drop from the bunch,) Creveling, Union Village, Maxatawny, Clara, Diana, Logan, North America, Rogers' Hybrid No. 1.

I hope that your readers will bear in mind that I speak of grape culture out here, for I think the grape question principally one of locality. Should peace smile once more on our beloved country we hope to take many of them by the hand next fall and convince them by ocular demonstration that they are facts, not fiction, we are talking about

Hermann, Mo., Dec. 4, 1864.

A CHAPTER ON ORCHIDS.

BY ORCHIS.

The plants included under the general name of Orchids are very generally distributed over the temperate and torrid zones. They are divided into two general classes, the terrestrial and epiphytal, or, in other words, those growing upon the ground and from it deriving their chief nourishment, and those growing upon trees or places removed from the ground and deriving their chief nourishment from the moisture of the air. This last characteristic is to be taken as a true type of the class, as many truly epiphytal orchids grow upon rocks near rapid water courses or cataracts, deriving their nourishment from the constant moisture, and though upon the earth only clinging to it for support, and having no more intimate relation with it.

In temperate zones we find only the terrestrial orchids; thus, in all North America (excepting Mexico and the states of Central America and the Isthmus,) while we find terrestrial species in abundance, we find

only one true epiphyte, a little Epidendrum (*E. conopseum*) which occurs in Florida on the *Magnolia glauca*. In the torrid zone, however, the epiphytal species grow in great luxuriance and in uncounted numbers, and the terrestrial, though often nearly allied to those of colder regions, assume a more richly marked foliage, and produce more gorgeous flowers.

The general order orchidaceæ owes its chief peculiarities to the following circumstances: *firstly*, to the consolidation of all the sexual organs into one common mass, called the column; *secondly*, to the suppression of all the anthers except one in the mass of the order, or two in Cypripedææ; *thirdly*, to the peculiar condition of its pollen and the anthers which contain it; and, *fourthly*, to the very general development of one of the inner leaves of the perianth or petals in an excessive degree, or in an unusual form. In classifying this order, the most important characters appear to reside

in the pollen, which in many is consolidated into firm, waxy masses of a definite number in each species, and in others is either in its usual loose, powdery condition, or is collected in granules or small wedges, the number of which is far too great to be counted.

In a brief article like the present to condense a manual of orchid culture is of course impossible. It is only our intention to give a few general hints on the subject, and to present in a few words such useful directions as our readings and experience have supplied upon a culture which is beginning to attract the attention of amateurs in this country as it has so long done in Europe.

To grow orchids successfully they must have a house especially devoted to their culture. They cannot be grown successfully with other plants, though in a house built for orchids we may often grow many of the beautiful variegated plants which like them need a moist heat.

We, however, see in most greenhouses a few orchids. These are generally *Oncidias*, *Stanhopeas*, *Bletias*, or *Cypripedia*, which are the most hardy of the tribe; all the requisites for growth are wanting and they just live, leading for years a starved, miserable existence.

Before constructing our house we must look a little at the requisite temperature, and moisture, and the seasons of growth and rest of these plants in their native countries. Now, as orchids come from regions where the temperature seldom falls below 80°, and also from countries where the thermometer often goes below the freezing point at night, so that the foliage is not unfrequently covered with hoar-frost, it is evident that the different species require a far different treatment. The culture suitable for the West Indian, the Mexican or Brazilian species is wholly unsuitable for the East Indian. It is therefore impossible to make one treatment suit all species, but by care many species coming from regions remote from each other may flourish in one house.

To grow them in greatest perfection three houses are necessary: the stove, the

intermediate house and the cold or resting house. These must each be kept at a different temperature, as will be shown hereafter. But, without the expense of three houses, orchids can be grown if we have only a stove and can devote a space in the greenhouse as a resting house, or the three houses may all be had by dividing a moderate sized house into three portions by partitions.

In general words the plants must have a treatment similar to that afforded by nature in their native haunts.

Now most of the orchids which we wish to grow and which are remarkable for gorgeous coloring or singular structure of their flowers are from hot countries. The greater part are epiphytic; some grow on the trunks of trees, some on the branches, some in the fork of the trunk and branches, some near the top of the tree in full sunlight, and others only in the most shady recesses of the forests.

Again, the mode of growth is different. Some are on the branches and send out erect spikes of bloom, others send out drooping spikes; some grow only on the under side of the branches.

Orchids are most capricious plants; the species are sparingly distributed; they are markedly local in their habits; of some varieties now in cultivation only a single plant has ever been discovered; some once in our stoves are now lost or represented only by dried specimens in herbaria, or botanical drawings or descriptions. Are we then to wonder at the seemingly exorbitant prices asked and obtained for fine specimens of rare species and varieties?

The habits of terrestrial orchids are no less marked than those of epiphytes. For years culturists failed to bloom *Diss grandiflora* (perhaps the most beautiful terrestrial orchid;) the most skilful gave up in despair; yet, at last, but a year or two since, the true mode of culture was discovered, which, in a word, was greenhouse culture, and now any one may have flowers of this beautiful plant. This same *Diss* is an instance of the local habits of orchids; it is only found in a

swampy place on Table Mountain at the Cape of Good Hope.

We may well despair at the possibility of adapting culture to each peculiar case. But we can approximate, and by giving plants what they most need we may obtain flowers which far surpass in formation, fragrance and color any of the productions of our temperate clime.

A point to remember in orchid culture is, that in tropical countries the days and nights being equal, the distribution of light and darkness is more even; also, that the light is more intense.

There is also a dry and wet season, during the former of which the plants are parched, during the latter saturated with moisture. The different altitudes and consequently different temperatures at which the different species grow must also not be forgotten.

The orchid house, then, to afford as much light as possible, should be of glass and span roofed; the ends may be of brick, as may also the front, though some prefer to have both of glass. In our severe climate we are led to think that brick is preferable, and in our more northern States a lean-to house may, for facility of warming, be better than a span roofed.

The house should be low in the angles, so that each plant may be near the glass. Let the house have an east and west aspect, that is, run north and south.

The reasons for this are that thus the light and heat of the sun are more equalized; in the cold mornings of early spring the sun sooner gives light and heat on the easterly side, and will be at noon in such a position that the beams will be slanting to the angle of the roof, while in the afternoon the duration of light and heat will be more considerable. Each plant will thus have its due share of light and heat. As the plants should (except some few species) be shaded from the direct rays of the sun, in a lean-to house with a southern exposure we must use some awning to keep the house in comparative shade; if we have a northern exposure we have too little light: in a span roofed

house while one side is in shadow the other is in full light. In the summer season it may be necessary to paint or wash the glass to protect both flowers and foliage from the burning rays of the sun; a light cream or straw color is best as productive of the most agreeable effect, and more conducive to the health of the plants.

There should be movable lights or sashes on the top of the house and also in the lower brick work at the front in order to secure ventilation. The air admitted from below should pass over the heated pipes or flues in order that it may become tempered, as cold drafts of air are very often fatal to orchids.

The arrangement of the interior must vary with various tastes.

There should always be a broad walk through the centre of the house, or, if the house is large enough, two walks around a central table.

The shelves of the stage (if a stage is used), or the table should be shallow troughs, about two inches deep. These should, if possible, be made of stone, brick, or slate, otherwise of the most durable wood, and made water tight: they are to be filled with sand, pebbles or gravel, upon which the pots should be placed. These shelves will retain the moisture, which is in summer indispensable to the health of the plants. A good substitute for stone is hydraulic cement, which may be used with small pebbles upon boards, is perfectly water-tight, and not expensive.

We have seen houses arranged with a large flat central table and narrower tables all round the sides; these are made about a foot deep, filled in with moss or sand, and into this the pots are plunged: the effect is very beautiful.

Shelves may be put up near the glass, but plants should always be kept a few inches from direct contact, lest they receive a chill in our cold winter nights, which is often quite as fatal as freezing. In our climate ice often forms very thickly upon the under surface of the glass in orchid houses: this, while beneficial by stopping up all in-

teristics in the glass and thereby retaining the heat, often proves injurious by the drip caused when it melts in the day, which falling on growing shoots not unfrequently caused them to damp off. To remedy this, little gutters of zinc or copper should run down each rafter so arranged as to carry off any drip.

Heating may be by numerous means; hot water pipes or steam pipes in water tanks are the best, as then the necessary moisture can at all times be afforded, and during the resting season, when a moist heat is no longer required, by emptying the tanks a dry heat may be obtained. A common brick flue may be used with good success; care must, however, be taken to prevent any escape of smoke or gas, which is most injurious to orchids and all stove plants. If, however, we heat otherwise than by hot water tanks, it will be essential to the health of the plants to afford constant moisture by the evaporation of water placed in large shallow zinc pans upon the flue or pipes. The water should be frequently changed in order that the moisture may always be pure and sweet. Sprinkling the

floor and shelves is also beneficial, especially in summer.

The habits of many orchids require them to be grown on blocks of wood or in baskets, which must be suspended from the roof of the house, that the plants may enjoy the full light. For this purpose, nails or hooks may be driven into the rafters, or strong rods may be carried across the rafters to which hooks shaped like the letter S may be suspended.

All metal hooks, nails, &c., used in an orchid house should be of copper or brass. Nothing of iron should be used: if unpainted the moisture immediately causes rust, the rusty water runs from the nails and discolors the paint; the nails themselves soon rust out, are weakened, and the plants suspended to them are often irretrievably damaged by the fall. If the iron is painted it does better, but the paint soon peels off: wire of galvanized iron is excellent, but not easily obtained. A screw is a better fastening than a nail; brass hooked screws are useful for small plants.

TO BE CONTINUED.

A NEW TURN TO FEMALE THOUGHT,

BY THE AUTHOR OF *TEN ACRES ENOUGH.*

MUCH is daily written of the necessity for enlarging the sphere of useful employment for women. It is seldom that their attention is directed to horticulture, to be prosecuted as a source of profit, though female taste runs naturally in the direction of fruits and flowers. The most successful parlor gardener will be found in some one of the ladies of the household. It is for them more especially that our garden walks are lined with flowers, our arbors clustered over with honeysuckles, our trees festooned with climbing roses, even our trellises overhung with grapes. We build greenhouses at the instigation of the softer sex. Their taste and care in these pursuits is every-

where visible around the homestead. This fondness for flowers, as well as for the flower garden, must be increasing among us. A single dealer in New York is reported to have sold in one season 50,000 carnation blossoms, 30,000 tuberoses, as many boudardias, 40,000 camellias, 70,000 primroses, and other flowers in almost countless numbers. But foreigners exceed us. A French florist sells annually 90,000 pounds of rose leaves, 40,000 pounds of violet blossoms, 60,000 of jasmine and tuberoses, while his sales of mint, and thyme, and rosemary, amount to many tons. But hundreds of others are there engaged in the same occupation. Whole villages are enveloped in an

atmosphere of fragrance, and travelers who may be approaching them, inhale the perfume for miles before they reach the village itself.

The gathering of these vast amounts of flowers is performed principally by women, the cultivation of the soil being done by men. It has been stated in a recent publication that "already hundreds of acres of lavender and peppermint are being planted in America, and the product exported to Europe." Women are the harvesters of these crops also. There is in Pennsylvania a great plantation of the common sage, of which the annual crop is gathered and cured by females. These are eminently feminine employments, which women could attend to as thoroughly as men, if the plantation were once established for them. Mrs. Tut-hill, of Staten Island, manufactured during the past season nearly a hundred gallons of blackberry brandy for the soldiers, and many other ladies, whose good deeds will never reach the press, showed themselves equally expert at similar occupations. One energetic widow in New Jersey is recorded as having been for years engaged in manufacturing preparations of wines and syrups from the common wild berries which the neighboring children brought to her, until she succeeded in clearing an encumbered farm of debt, and built up the business to a fixed commercial magnitude. All the great fruit canning and preserving establishments throughout our country, whether in the cities or in the fields, are carried on by the help of women. They perform the great bulk of the indoor work of these establishments. The men organize them, attend to the business details, the buying and selling, but the practical departments are filled almost exclusively by women.

Strictly speaking, these may not be either floral or horticultural employments. But they are so near akin to them as to be worthy of being considered indispensable adjuncts of both. It is probable that if female labor were not invoked to assist in conducting them, they could not have reached the high commercial value which

it is seen they have attained, while the market prices of their products would have been considerably greater. But they demonstrate the great fact that there is a natural aptitude in the female organization for all employments connected with the growth, the management, and the preservation of fruits and flowers. The problem is, how to enable them to exert this aptitude on a scale large enough to make the pursuit remunerative, as a distinct individual employment.

Some years ago an educated and wealthy lady, distinguished for the energy which she threw into all her undertakings, conceived the idea that the business of bee keeping could be made so profitable to women who needed some addition to their means of support, that she undertook the matter on a large scale. Her object was to show that the wives and daughters of cottagers, the widows and single women who obtained a precarious support by the needle or the washtub, might be taught the art of keeping bees and the production of honey, at scarcely any cost, while the income from a few hives would be sure to be an important affair with all of them. She could see no reason why the wife of a day laborer should not have twenty hives as well as one, and was quite sure that if she had the twenty, she would realize from them a large income. Unlike the universal cow of the cottager, or the ever hungry brood of chickens, the bees would provide their own food. She began by planting, at her own expense, whole acres of mignonette as bee pasture. She put other acres in red clover, and others in buckwheat. There was thus no difficulty in providing abundant range of pasture. She had many hives, to prove to those whom she expected to make converts to her theory that bee keeping on a large scale could be made profitable, and had men to look after and manage them. But for some reasons not now distinctly remembered, her patriotic enterprise proved a failure. Her hired men knew no more of bee keeping than she did herself; and then the world had not, at that early day, been

savored with the crowd of improved hives which annually swarm out from the Patent Office, some of them so perfect that they ostentatiously profess an ability to produce better honey, and more of it, than the bees themselves. She was evidently in advance of the age.

But it would be unwise to assume that because a great enterprise breaks down in the hands of one man, it must be expected to fail in those of his successor, as all our industrial experience rises up in contradiction. Twenty years practice in the art of bee keeping in this country has added immensely to the general stock of knowledge on the subject, and placed it, so to speak, among the exact sciences. It therefore becomes a question whether that point of simplification has not been reached, which will enable careful and energetic women to become successful apiarists, even to the extent of enabling them to live by such employment. There are potent reasons, growing out of the events of the war, for inviting attention to the subject. That contest has cut off our home supply of sweets, while a war tariff has so sent up the price of all that comes in from abroad, that every devotee of even sugar plums and candy is feelingly alive to its enormity. Far more calamitous than this, our country homes contain the desolate widows and orphans of brave men who have fallen in battle, while others are occupied by the maimed or otherwise shattered survivors. Hard work was always impossible to the widows and children, but now it has become equally so for these crippled heroes. The bee culture opens for all these a wider door for emolument than the transient reader may imagine.

There has recently been published an instructive essay on this subject, from the pen of Mr. Richard Colvin of Baltimore, which abounds in facts and figures showing the magnitude to which it has already attained among us, as well as what great results may yet be accomplished by its more general prosecution. Mr. Colvin asserts that "there are few, if any, loca-

lities in the United States, habitable by man, in which bees, properly managed, will not pay a bountiful compensation for their cultivation, while in the more favorable localities, four or five hundred per cent per annum is no unusual product. Fifty pounds of surplus honey from a single colony would be a low estimate, and this, at war prices, would amount to twenty dollars. But in some localities in the West, it is not uncommon for the yield to reach as high as one hundred to two hundred pounds." In 1860 this country produced 1,357,864 pounds of wax, and over 25,000,000 pounds of honey, an increase of 77 per cent in ten years. Mr. Colvin says that if our farmers, say two and a half millions, were to provide themselves with only ten colonies each, the aggregate, at 50 pounds each, would be 1,250,000,000 of pounds, worth, at 25 cents only, more than \$300,000,000 per annum.

A single half acre of ground he declares to be abundant space for the location of two hundred colonies, which, under proper management in an average locality, can be made to yield from three to four tons of honey annually. He justly observes that all this, unlike any of our usual crops, is spontaneous, requiring neither plough, nor hoe, nor labor—the bees work for nothing and find themselves. These apiaries are sometimes wonderfully compact. I have seen at West Morissania, near New York, a little one story shed, not equal to ten feet square, in which a careful German gardener keeps hives enough to produce him \$400 worth of honey annually. Mr. Colvin says that "already a number of ladies are extensively and most successfully engaged in bee culture, one of whom I am informed has nearly four thousand pounds of surplus honey, besides a considerable number of swarms, the product of about one hundred colonies of bees this year." Where would four thousand pounds of honey, say at war prices, place a widow and her orphans now?

The broad assertion has been made by experienced bee keepers, that they yield more profit than any other product of the farm. Our bookstores contain many works

upon the art; great improvements have been made in hives; and the business has become so simplified as to enable women, when once fairly started in it, to become successful apiculturists. Though it be neither floricultural

nor horticulture, yet it is twin brother to both, and as such, is eminently worthy of being added to the light employments for women who happen to be so situated as to be able to embark in it.

OUR METHOD.

BY ——.

A WRITER in one of the agricultural journals calls for more grape literature, and even suggests that one or more journals should be exclusively devoted to that subject. We hope he is a diligent reader of the *HORTICULTURIST*, where he will find the subject tolerably well ventilated, although it does not appear that "Our Method" has been described or so elaborately developed as to make any one "sick and tired" of it. New beginners require line upon line and precept upon precept, and straightway go their way and forget it all. This, however, may be the fault of writers upon Grape Culture who write so much, or rather, like the cotton manufacturers of the present day, placing so high a value on the raw material, spin their yarns so fine that neither warp nor woof are found of much value for practical service. The objection to these fine spun theories is, that great mystery is thrown over the cultivation, and the man of moderate means discouraged before he begins. Those who desire to make money instead of spending it, are deterred by costly modes of preparing the soil. It requires neither civil engineering nor costly earthworks to cultivate the grape according to "our method." We propose to produce the hundred fold in the simplest manner, and first give our attention to the selection of the vineyard. If the neophyte already owns the land we advise him to select the best spot he has for the vineyard, let it be sloping or level, be sure that it is not wet. Wild vines grow in swamps and by the banks of streams, if this is nature's, it is not "our method." Shelter is more important than situation. If the exposure is to the

sun for three-fourths of the day and sheltered from the cold winter winds, one need not be too particular as to points of compass—all farms are not bounded by latitudinal or longitudinal lines. When shelter cannot be found ready prepared, plant small evergreens from the nursery in belts (at a trifling cost) and they will soon grow so as to afford valuable protection and may be ornamental at the same time. Should the grape grower not own his land, we advise great care in selecting it, for he can then choose such land as is suitable for his purpose; he may at his leisure look for his eastern and southern and south-western slopes, his belts of timber, his soil of shale, or limestone or marl, or loam made up of due proportions of clay and sand, but he must not content himself with the mere surface, he must penetrate beneath it. The subsoil is of more value to him than the upper strata. He must provide a place for the grape roots which grow out of sight, and they must have room to roam far and wide. Hardpan is incompatible with easy and successful grape culture—it is expensive to drain and plow or trench, and a poor medium after a sum of money has been sunk upon it that would buy good land elsewhere. Let the owner of such a soil content himself with a few glass houses under which he may trench and make a soil of muck, sods and compost, carting away the contents of his cellar to repair the public roads. The soil being selected, we will suppose it to be such as has brought a fair crop of corn the past season; good corn land is generally good grape land. Such a field as would be selected for an apple orchard may be deemed to be good for

a vineyard, and the field before planting with grapes may be prepared in the same manner as for an orchard; by the ordinary two-horse plow followed with a subsoil plow in each furrow, the latter loosens the soil so as to make it mellow enough for the roots of young trees or vines. This should then be manured with stable manure or compost and cross plowed, after which lay out the rows either east and west, or in any other directions which may be most convenient and suit the situation of the field whatever the course of the rows may be the sun will gain access to them all during the day. As the land occupied is estimated by the acre and not by the square foot, that is, it is vineyard land and not city lots, we insist that the rows be ten feet apart, but before deciding on the rows we propose to reserve a space on the entire outside of the field wide enough to drive a one horse cart for the convenience of carting-in manure and for other purposes. This will save the expense of planting and afterwards rooting out vines or removing trellises. In every field of five acres there should be one cross road—a cart can easily go up and down the rows at pleasure. After the rows are laid out, set the plants six feet from each other, placing those at the end of the row three feet within the position intended for the outside posts. We assume that the field to be planted has one square corner in it. In this corner we measure off ten feet from each fence parallel to it and thus find a place for the first row and for the outside post in that row, the other rows are easily formed and a ten foot pole supplies the place of transit instrument and surveyor's chain. An as-

sistant engineer may be improvised readily out of a boy with a basket of pegs previously prepared by him at the wood pile with a hatchet, and now we are ready to set the plants; but here let us pause and inquire what kind of plants are to be set? Are they such plants as Columella, eighteen hundred years ago, advised his friend to set out, *cultivated by himself*, so as to be sure they were good? or are they such as have been sold at auction to the highest bidder because the producer thinks them unfit to offer at private sale? "Our Method" supposes that none but the very best healthy, vigorous vines be set in our vineyards and that what we lose in the cost of good vines is returned four-fold in the saving of labor—the gain in time of maturity—and in the excellence of our vineyard when it has added several years of interest to the original outlay, and when "the Inn begins to receive." If we are to set out poor plants we propose to drop the pen and draw the curtain over the rest of our description. It matters little how they are set and how they are cultivated. Our vineyardist is destined to severe toil and to reap disappointment, he produces only a puny growth, his vines refuse to fruit or the quality is inferior; the canes are without vigor; rot and mildew ensue. He hopes on, tries again and gets more discouraged. At the end of six years, if a man of great energy, he cuts his vines to the ground to make a new start or plows up his land to plant with corn, sells his trellis wire for 20 per cent. of its cost, and pronounces grape culture a humbug.

PRUNING OF FRUIT TREES.

T. T. S.

Well understood as it may be by professed pomologists, or even by good gardeners, yet among the mass who plant trees I am convinced that there is no subject which so closely relates to their interests, that is

so poorly understood or the study of which is so much neglected as the proper manner and use of pruning fruit trees.

Those who distribute trees can but gain a correct idea of the miserable ignorance of

all that pertains to tree growth, which prevails among the class who mostly plant trees. This want of enlightenment is not felt alone by those who inhabit the western wilds or by our backwoods farmers, but is seen even in those who dwell in close proximity to that great centre of intelligence, enterprise, and wealth, New York City.

A couple of years ago I attended to the delivery of something over ten thousand fruit trees in New Jersey, and but a short distance from New York. These trees were sold to a large number of persons, and I do not remember that so many as half a dozen of the men who came and paid me their money for trees, knew how to go home and plant and care for them properly. So far as possible, I would give to each one particular directions and explanations. I would say to a man as he took his trees and vines : "Neighbor, what are you going to do with that bundle of trees?" His answer would be in almost all cases, "Why, I am going to plant them." "Please to tell me just how you are going to plant them?" "Well, I shall dig a hole, put the roots in and throw in a pail of water and fill up the hole." "Well, what else?" "Nothing — that's enough, ain't it?" "Would you not shorten in some of that luxurious growth of limbs?" "I would not, and don't see the need of it, and besides it looks foolish to pay a large price for extra thrifty trees and then cut the limbs back and spoil the looks of the tree." "Well, sir, if you want an early, healthy, vigorous growth, you must cut back at least one-half of the new growth, and it would be still better if you made it two-thirds." "Can't see any reason for doing such a thing; sometimes I clip off the end a little, but to cut back two thirds would certainly spoil the tree." Then I would explain to him the principles which govern tree growth by saying: "This tree has been taken from its natural resting place, and until a new set of fibrous roots are formed the main roots are not able to furnish but a very small quantity of sap for the tree and its leaves to live on. Now we will suppose that this tree has in its pre-

sent untrimmed state a thousand buds, each one of these buds will put forth a leaf and each leaf will consume its portion of sap, but the roots being unable to supply them with anything like the needful quantity of sap they take what they can furnish to supply them alone, which leaves no sap to make growth with, and until the tree grows the roots cannot to much extent. Therefore your trees drag out a half-alive existence the first and second year, or die outright. But reduce those thousand leaves, by pruning, to three hundred and the roots are able to support the call made on them, make some limb growth beside, and your tree lives and makes more growth in two seasons than it otherwise would in four. This sounded reasonable, and I was usually thanked for the information, of which they knew nothing before. A large portion of the stock consisted of dwarf pears, but hardly a man ever heard that dwarf pears needed to be pruned, either at planting or any other time. Some bought of dwarf pears a hundred dollars worth, and never mistrusted that they needed the highest kind of feeding and the most severe pruning to make them productive, healthy and vigorous, but supposed they needed the same general treatment as an apple or cherry tree.

This want of knowledge does not pertain to New Jersey alone, but is as widespread as our continent. I cite the above instances merely to show how wanting the mass are in requisite knowledge in this particular branch, and even so near a great city, where people are supposed to be more advanced than in the interior. Go where you will and you will find that yearly, immense quantities of trees are sent through the country, planted, and cared for in ignorance, or, rather, uncared for at all, and die. Thus vast sums of money are spent for which the spender gets no return, and the country is deprived and delayed in receiving the fruit it ought. Public as well as private interests are made to suffer. I hope it is not the fault, though I fear it is, of some tree agents and nurserymen that those that buy their wares are not more fully posted how to

take care of them. If any nurseryman or tree agent who sells a tree would briefly explain how to take care of it, great indeed would be the good. It is a shortsighted policy that deems, that the more trees that

die the greater room for more: the reverse is true. Can there not be a more general dissemination of those simple rules which shall teach the people how to plant, and prune, and care for their fruit trees?

HOW TO MAKE A PARADISE IN THE COUNTRY.

BY THE AUTHOR OF "LETTERS FROM UNDER A BRIDGE."

CONCLUDED.

TOUCHING "grounds." The first impulses of taste are dangerous to follow, no less from their blindness to unforeseen combinations, than from their expensiveness. In placing your house as far from the public road as possible (and a considerable distance from dust and intrusion, seems at first a *sine qua non*) you entail upon yourself a very costly appendage in the shape of a private road, which of course must be nicely gravelled and nicely kept. A walk or drive, within your gate, which is not hard and free from weeds, is as objectionable as an untidy white dress upon a lady, and as she would be better clad in russet, your road were better covered with grass. I may as well say that a hundred yards of gravel-walk, properly "scored," weeded, and rolled, will cost five dollars a month—a man's labor reckoned at the present usage. Now no person for whom this letter is written, can afford to keep more than one man servant for "chores." A hundred yards of gravel-walk, therefore, employing half his time, you can easily calculate the distribution of the remainder, upon the flower-garden, kitchen-garden, wood-shed, stable, and piggery. (The female "help" should *milk* if I died for it!) My own opinion is, that fifty yards from the road is far enough, and twenty a more prudent distance, though, in the latter case, an impervious screen of shrubbery along your outer fence is indispensable.

The matter of gravel-walks embraces several points of rural comfort, and, to do without them, you must have no young ladies in your acquaintance, and especially,

no young gentlemen from the cities. It may not have occurred to you in your sidewalk life, that the dew falls in the country with tolerable regularity; and that, from sundown to ten in the forenoon, you are as much insulated in a cottage surrounded with high grass, as on a rock surrounded with forty fathom water,—shod *a la mode*, I mean. People talk of being "pent up in a city," with perhaps twenty miles of flagged sidewalk extending from their door-stone! They are apt to draw a contrast, favorable to the liberty of cities, however, if they come thinly shod to the country, and must either wade in the grass or stumble through the ruts of a dusty road. If you wish to see bodies acted on by an "exhausted receiver," (giving out their "airs" of course,) shut up your young city friends in a country cottage, by the compulsion of wet grass and muddy highways. Better gravel your whole farm, you say. But having reduced you to this point of horror, you are prepared to listen without contempt, while I suggest two humble *succedanea*.

First: On receiving intimation of a probable visit from a city friend, write by return of post for the size of her foot (or his.) Provide immediately a pair of India-rubber shoes of the corresponding number, and on the morning after your friend's arrival, be ready with them at the first horrified withdrawal of the damp foot from the grass. Your shoes may cost you a dollar a pair, but if your visitors are not more than ten or twelve in the season, it is a saving of fifty per cent. at least, in graveling and weeding.

Or, Second: Enclose the two or three acres immediately about your house with a ring fence, and pasture within it a small flock of sheep. They are clean and picturesque, (your dog should be taught to keep them from the doors and porticoes,) and by feeding down the grass to a continual greensward, they give the dew a chance to dry off early and enlarge your cottage "liberties" to the extent of their brawlings.

I may as well add, by the way, that a walk with the sod simply taken off, is, in this climate, dry enough, except for an hour or two after a heavy rain; and besides the original saving in gravel, it is kept clean with a quarter of the trouble. A weed imbedded in stones is a much more obstinate customer than a score of them sliced from the smooth ground. At any rate, out with them! A neglected walk indicates that worst of country diseases, a mind grown slovenly and slip-slop! Your house may go unpainted, and your dress, (with one exception) submit to the course of events—but be scrupulous in the whiteness of your linen, tenacious of the neatness of your gravel-walks; and, while these points hold, you are at a redeemable remove from the lapse, (fatally prone and easy,) into barbarianism and misanthropy.

Before I enter upon the cultivation of grounds, let me lay before the reader my favorite idea of a cottage—not a *cottage crâne*, but a *cottage insouciance*, if I may coin a phrase. In the valley of Sweet Waters, on the banks of the Barbyses, there stands a small pleasure palace of the Sultan, which looks as if it was dropped into the green lap of nature, like a jewel-case on a birth-day, with neither preparation on the part of the bestower, nor disturbance on the part of the receiver. From the balcony's foot on every side, extends an unbroken sod to the horizon. Gigantic trees shadow the grass here and there, and an enormous marble vase, carved in imitation of a sea-shell, turns the silver Barbyses in a curious cascade over its lip; but else, it is all Nature's

lap, with its bauble resting in velvet—no gardens, no fences, no walls, no shrubberies—a beautiful valley with the sky resting on its rim, and nothing in it save one fairy palace. The simplicity of the thing enchanted me, and, in all my yearnings after rural seclusion, this vision of old travel has, more or less, colored my fancy. You see what I mean, with half an eye. Gardens are beautiful, shrubberies ornamental, summer-houses and alleys, and gravelled paths, all delightful—but they are, each and all, taxes—heavy taxes on mind, time, and "dollar." Perhaps you like them. Perhaps you want the occupation. But some men of small means, like a contemplative idleness in the country. Some men's time never hangs heavily under a tree. Some men like to lock their doors (or to be at liberty to do so,) and be gone for a month, without dread of gardens plundered, flowers trod down, shrubs browsed off by cattle. Some men like nothing out of doors but that which can take care of itself—the side of a house or a forest-tree, or an old horse in a pasture. These men, too, like that which is beautiful, and for such I draw this picture of the *cottage insouciance*. What more simply elegant than a pretty structure in the lap of a green dell! What more convenient! What so economical! Sheep (we may "return to muttions") are cheaper "help" than men, and if they do not keep your greensward so brightly mown, they crop it faithfully and turn the crop to better account. The only rule of perfect independence in the country, is to make no "improvement" which requires more attention than the making. So—you are at liberty to take your wife to the springs. So—you join a coterie at Niagara at a letter's warning. So—you can spend a winter in Italy without leaving half your income to servants who keep house at home. So—you can sleep without dread of hail-storms on your graperies or green-houses, without blunderbuss for predators of fruit, without distress at slugs, cut-worms, drouth, or breachy cattle. Nature is prodigal of flowers, grapes

are cheaper bought than raised, fruit *idem*, butter *idem* (though you mayn't think so,) and as for amusement—the man who can not find it between driving, fishing, shoot-

ing, strolling, and reading, (to say nothing of less selfish pleasures,) has no business in the country. He should go back to town.

PEACH TREES—PRUNING.

Of all the fruit trees there is no one which seems to meet with such general neglect in proper treatment as the peach. Whether this proceeds from ignorance, indifference, or because it is supposed that the peach tree can take care of itself, we leave to the experience of our readers. But it is nevertheless a fact, and one which is clearly exhibited in almost every collection of peach trees that comes under our observation. There are exceptions, it is true—exceptions among intelligent and careful fruit growers; but these exceptions are, as usual, just sufficient to prove the rule.

The most common complaint against the peach is that of being *short-lived*, and it is no wonder. The only marvel is that, under the treatment it gets, it continues to worry out even the existence it does. There is no sufficient reason why this should be so. We can remember in our day, peach trees of venerable age, yielding good and luscious fruit year after year even in their old age, and succumbing at last only when nature could hold out no longer.

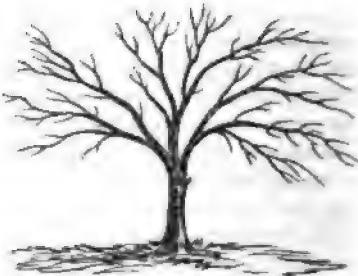
How different from the peach of the present day. To be sure there are more causes now operating against the successful growth of the peach than in the days of which we speak; but, even all things considered, there is not the success there ought to be, and this from sheer neglect.

We do not propose in the present article to go into all the abuses the peach is subject to, but simply to speak of one particular neglect, because now is the proper season to attend to the matter.

One of the chief neglects of the peach, and a very vital one it is, we consider to be neglect of the proper *pruning* and *shaping* of the tree.

This has more to do with the longevity of the tree than is generally supposed.

The peach tree is as susceptible of training and taking a comely shape as any other fruit tree. And yet, as usually seen, it is about the most ungainly and ill-shaped among them all. Left to take care of itself, it usually presents among fruit trees an appearance of deformity of every possible kind and description—either a crooked, twisted tree, with an unbalanced top, or else two



Peach tree left to itself.

or three main branches springing from the trunk and terminating in a high head, which carries all the foliage and all the fruit. As a consequence of this, either the violence of winds or the weight of a full crop breaks off these main branches at the trunk, or splits them in such wise that an ugly, gum-exuding ulcer is generated, and this process goes on until, exhausted, the tree languishes and dies.

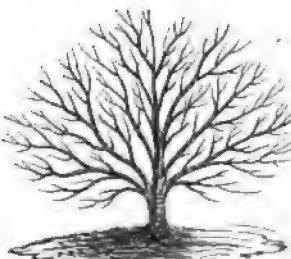
All this may be avoided by careful training and judicious pruning. Don't be afraid to use the shears. What you want to get is a compact mass, well-developed, evenly-balanced; one over which a large crop may be evenly distributed without causing an undue strain upon any one part of the structure: a shape which will prove as

economy in respect to space, as affording the greatest possible room for a crop within the smallest area.

Do you ask how this is to be done? We answer: by what is known as the shortening-in process. Do you inquire, when is this to be done? We reply, Now. You can't do better than to commence immediately. The process is to go over the whole tree and clip off from one-half to three-quarters of the last year's growth. Yes, all that bright, handsome growth of young wood, those ruddy stems, are to be clipped; somewhat after the fashion of the man who cuts your hair, you must go over the whole surface, clipping off at least one-half of the growth. This will depend, of course, on the age of the tree: if young, so much the better, and the greater need of pruning. You have then the chance of making a well-shaped and long-lived tree. Care must be exercised, however, in the modus operandi. Endeavor to cut to a bud on the outer side of the stem; this will give, when the next growth starts, a prolongation outwardly, and prevent the tree becoming too crowded in the centre, or interior part.

If you neglect this precaution, and cut haphazard, you will have some branches growing straight upward and others growing into the interior of the structure, which

will in the end make matters worse than if you left the tree to its own inclination.



Peach tree properly pruned. ,

Properly pursued and you will secure a well-balanced and handsome-shaped head to your tree, whose foliage, when in leaf, will be an object of decided beauty. The late Mr. Downing attached very great importance to this shortening-in process, and the reader, by referring back to some of the earlier numbers of the HORTICULTURIST, will find valuable instruction from him in all these particulars.

We have confined ourselves to this one point in the present article because, as we have stated, now is the time to put these principles in practice; the further care of the tree, and the precautions to be taken to guard against injuries from other sources, come in later in the season, and such instruction as may be necessary may be deferred to a later number.

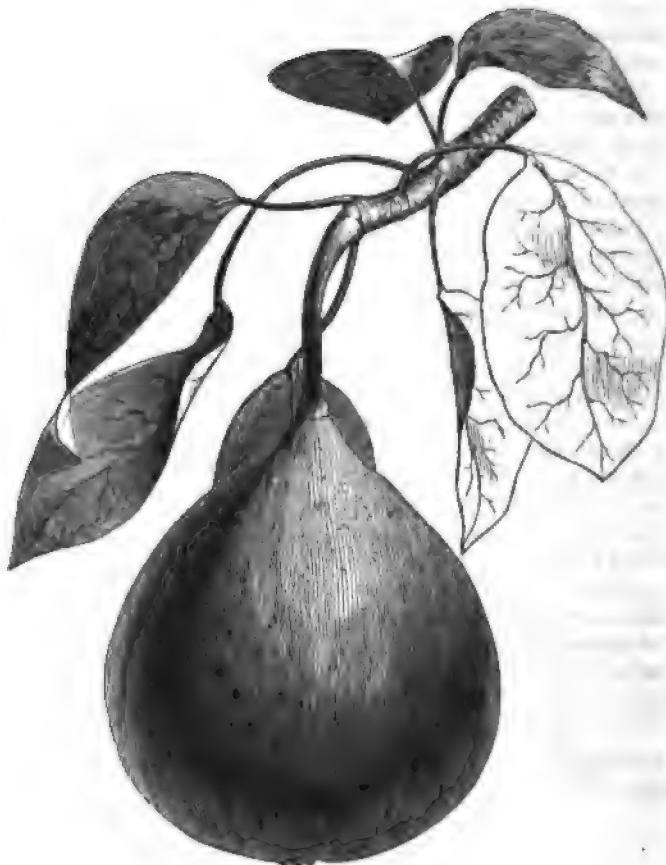
BLOODGOOD PEAR.

THE Bloodgood is the highest flavored of all early pears, and deserves a place even in the smallest garden. It was named from the circumstance of its having been brought into notice about 1835, by the late James Bloodgood, nurseryman, Flushing, L. I. The sort was brought to that nursery as a new variety, without a name however, by some person on Long Island, unknown to Mr. B., who was never able afterwards to trace its history further. The tree is rather short jointed, with deep reddish brown

wood, grows moderately fast, and bears early and regularly. The fruit, like that of all early pears, is better if ripened in the house. It surpasses every European variety of the same season, and together with the Dearborn's Seedling, another native sort, will supplant in all our gardens the Jargonelle, and all inferior early pears.

Fruit of medium size, turbinate, inclining to obovate, thickening very abruptly into the stalk. Skin yellow, sprinkled with russet dots, and net-work markings, giving it a

russetty look on one side. Calyx strong, obliquely inserted, without depression, open, set almost without depression. Stalk short, dark brown, fleshy at its base. Flesh



Bloodgood Pear.

yellowish-white, buttery and melting, with a rich, sugary, highly aromatic flavor. The thin skin has a musky perfume. Core small Ripe from the 25th of July to the 10th of August.—*Downing.*

TO MAKE A PLANT PRODUCE FRUIT OR FLOWERS.

BY B. AYCRIGG.

"To make a plant produce fruit or flowers, crowd its roots and starve it, and it will bear itself to death. To preserve its life, give it fresh space and fresh soil to form new roots and it will form new wood."

This corresponds with the practice of dwarfing trees by placing them on stocks of a smaller species that shall not afford a

full supply of sap. They were the concluding remarks of a very successful amateur, who had a large ornamental garden, and green house, and hot house in beautiful condition, and managed entirely by himself.

I expressed my admiration of the crop on a lemon tree. The owner remarked: "This is only a medium crop. Last year it was

much less. Next year it will be much more. The year after it would also be large if I should make no change. But after next year's crop I shall put it into a larger box with half an inch of fresh soil at the bottom and on each side, and that small addition will materially reduce the next crop. But it is necessary to do this about every three years in order that it may form new roots.

"That tree belonged to an old lady in town who had nursed it with great care for many years, but could get no fruit. She

had it in a large box, and every year gave it fresh soil. She was afraid that she would kill it if she should follow my advice, and sold it to me. I immediately cut off most of the roots and put it into this small box, and you see the consequence. In the same manner with any other fruit, or with roses or any other flower, if you wish to make them bear you must starve them."

He also said that he did not water this lemon tree until the fruit yielded to a gentle pressure.

Passaic, N. J., Dec. 20, 1864.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

THE HORTICULTURIST FOR 1865. We call the attention of our readers to the opening numbers of this new volume as an evidence of our intention to keep it up to a high standard, each succeeding number we propose to make better than the last, and we are perfecting our plans as rapidly as possible to secure the best talent the country affords, on all subjects relating to Horticulture and kindred arts.

The accomplished author of "my Farm of Edgewood" will furnish an illustrated article each alternate month during the year, and the author of "Ten acres enough" will write for each number. We shall endeavor to secure the aid of all practical writers throughout the country, and our readers are invited at all times to communicate to us any sound *practical* facts that come under their observation. Our aim is to make the HORTICULTURIST high and reliable authority and to give purely practical information on all subjects of which it treats. We do not place much value on the best written essays that do not convey practical information.

WOODWARD'S COUNTRY HOMES.—This work will be published about the 25th

February—will be printed on heavy calendered paper and elegantly illustrated. It covers a field not occupied by many of the valuable publications on this subject. Readers of the HORTICULTURIST for the past few years will find here collected in convenient form, many of the best designs that have appeared in this magazine, the matter accompanying which has been entirely re-written for this publication. The illustrated article on the construction of balloon frames is entirely new to most of our readers, and worth many times the price of the book to all who contemplate the erection of even an ordinary out-building. The designs given are mostly for low-priced buildings, churches, cottages, stables, ice-houses, summer-houses, school-houses, gates (a great variety,) fences, &c., with thoroughly practical descriptions. 12mo. Price, \$1 50 post paid to any address. Geo. E. & F. W. Woodward, authors and publishers, office of the HORTICULTURIST, 37 Park Row, N. Y.

SUSPENSION OF CLUB RATES.—All subscribers to the HORTICULTURIST are now on an equal footing, the price being uniformly

TWO DOLLARS PER ANNUM, and we intend all shall receive the full value of their money.

New subscribers will find the volumes for 1862, 1863, 1864 and the numbers for 1865, a profitable and desirable investment. We send the three volumes, bound and post paid, and the numbers for 1865 for SEVEN DOLLARS. They contain above 1700 royal octavo pages, and 500 original illustrations. Send us a postal order for seven dollars, and by return mail the volumes will be received in prime condition.

WOODWARD'S GRAPES & HORTICULTURAL BUILDINGS.—A thoroughly practical illustrated work on this subject, being the result of several years professional practice in the design and construction of these buildings, will be published by us at this office on or before the 1st of April, 12mo., price \$1.50 post paid to any address.

VOLUMES FOR 1853 AND 1859 WANTED.—Any of our readers having these volumes to dispose of will please send price to this office. We are prepared to buy at any time back volumes and back sets of 'the HORTICULTRIST' from 1846 to 1860, inclusive. Parties having full or incomplete sets which they would like to dispose of for cash, or exchange for agricultural and horticultural books or new subscriptions, will greatly oblige us by sending list and the lowest price. We buy to sell again, and prices must be made accordingly.

PARTIES who subscribe to *Hovey's Magazine* and the *Gardeners' Monthly* through us, are hereby notified that the publication days of these Magazines are from the 10th to the 15th of the month, our publication day being the 1st.

We consider these Magazines to be sound, reliable, permanent, first class publications, and in any case of failure by mail or from other causes, we make the numbers good. The fact that we are the New York agents of these publications is sufficient evidence of the confidence reposed in us, and of our

opinion of those publications and their proprietors. Any of our readers subscribing for any publication through us, have our guarantee for the entire fulfilment of the subscription. We make this explanation in answer to several enquiries, and close by calling the attention of our readers to the value of both Hovey's Magazine, and the Gardeners' Monthly. We send them with or without the HORTICULTRIST, one for \$2 per annum, two for \$3 75, the three \$5 50.

A NEW FIRM.—Messrs. Fleming & Davidson, the well known seedsmen, of 67 Nassau Street, N. Y., have dissolved partnership and a new concern has been formed under the firm of Henderson & Fleming, Mr. Peter Henderson, of Jersey City, becoming a partner. This firm is composed of practical men; they understand their business thoroughly, and we feel confident that all orders sent them will be faithfully and promptly filled, and that the articles they send will prove to be just what is represented. Our distant subscribers, who order seeds by mail from Messrs. Henderson & Fleming, can rely upon getting as good an article and at as reasonable a price as by a personal application.

GRAPES AT CINCINNATI.—Notwithstanding Mr. Yeatman's opinion that the culture of the Grape has proved a failure in the neighborhood of Cincinnati, there are others who yet have faith in its ultimate success. Among these latter may be named E. A. Thompson, Esq., of Cincinnati, who informs us that he is preparing his grounds on the Kentucky hillside to plant, this coming spring, 16,000 vines. The varieties that he chooses—excluding, it will be seen, the Catawba—are as follows: 6000 Delaware, 3000 Norton's Virginia, 2000 Concord, 4000 Ives' Seedling, and another 1000 divided among some twenty varieties.—*Ohio Farmer*.

We have seen a very delicate light wine, purporting to be made at Ithaca, on the Cayuga Lake, from the Black Hamburg

grape, reared in the open air. It was very agreeably flavored, and had the color of the rather paler berries of the grape from which it was named. It was said that the vineyard from which it is produced is on an island in the lake. We have met with no account of this wine, or of the out-door cultivation of the Hamburgh grape in that quarter, but it has struck us that, considering the high price which Black Hamburgh grapes bear in the market, it would be more profitable for the cultivator to dispose of them in the cluster than to give himself the trouble of making them into wine, superintending its fermentation, and putting it into bottles. We know, of a German cultivator of American grapes on Long Island, who is exceedingly anxious to make wine, and has all the apparatus for the purpose, but who finds, when the season comes, that grapes bring so good a price as to make it impossible for him to resist the temptation of taking the ready cash for his fruit.—*N. Y. Evening Post.*

we hope to give the results to the readers of the *Ohio Farmer*.

After the close of the meeting of the Horticultural Society, there was a meeting of the Wine Grower's Association; the long table was over filled with tasters, and the wines were superb. John E. Mottier—the old wag, had placed upon the table a sample of imported Johannisberg, which cost \$75 a dozen and a sample of his Delaware vintage of 1864, and the marks of all the tasters was considerably higher for the young Delaware, than for the ripe Johannisberg! This was a big joke, but after it was known what we had been tasting, every one declared the marking was right, and upon my honor, I must say never such Delaware moistened my lips before, and so young. Mr. Mottier has sold the entire vintage of two hundred gallons at six dollars a gallon. When that wine gets ripe it will make a sensation among wine tasters. If Mottier had driven the nail before, this clinches it, that he is at the head of the producers of pure native wine.—*Ohio Farmer.*

Being in Cincinnati upon Saturday, of course I attended the meeting of the Horticultural Society, where I met a goodly number of the fruit-men of that place. It appears that Thomas Yeatman, a well known grape grower of that region, had written a letter to the dispraise of Cincinnati as a grape growing region, and a committee had been appointed to set the matter right. This brought out a spirited discussion as to whether grape growing could be still made profitable there. Of course the old vigneron were piqued by Mr. Yeatman's treason, and will take the field in defence of their ancient renown. I took occasion to give the grape men notice that the Lake Erie region was in the field, and that unless the Cincinnatians bestirred themselves in this matter we should eclipse the fame of their vineyards. John E. Mottier, the wine king of Cedar Avenue, promises us the figures of his vintage for 1864, which he thinks will show a healthy state of affairs on his side. When the Committee report the state of the grape business about Cincinnati

GRAPE AND WINE MEN—OHIO GRAPE AND WINE GROWERS' ASSOCIATION.—The subscribers urgently request all persons in the State or adjoining districts, interested in the growing of grapes or production of wine, to meet at the *Ohio Farmer* Office, in the city of Cleveland, on the first Wednesday of February next, at 10 o'clock, A. M., to organize an association as above named.

The intention is to hold quarterly meetings at various points in the grape districts for examination and discussion of subjects pertaining to our native grapes and wines—and to make an exhibition of products at the annual meeting to be held in September. Those who may be unable to attend are requested to send us their names. Those receiving this circular will please reply at once, and also send to F. R. Elliott, at Cleveland, a list of all persons in their neighborhood interested in our object.

F. R. ELLIOTT, M. B. BATEHAM,
J. P. DAKE, JNO. A. WARDER,
GEO. POWERS, JOHN SPALDING,

GEO. W. CAMPBELL,	J. P. KIRTLAND,
J. J. HARRISON,	J. A. BRAYTON,
W. A. LILLIE,	W. F. GREER,
D. H. BECKWITH,	ALTON POPE,
S. B. MARSHALL,	CHAS. PEASE,
GEO. M. BEELER,	GEO. W. DEAN,
R. BUCHANAN,	J. E. MOTTIER,
ISRAEL HALL.	

FRUIT PRESERVING HOUSE. — Messrs. Nyce, Shirk & Co., of Indiana, came to Cleveland last season and erected a building for preserving fruits and other perishable articles, such as butter, eggs, &c., which are damaged by exposure to the common atmosphere. The building is made with double walls, like an ice-house, the outer casing being of sheet iron, the space between the walls filled in with shavings, saw-dust, &c. The storing room of this building is of the capacity of holding fifteen thousand bushels of fruit, which is placed on shelves in tiers and ranges, so as to be readily accessible when wanted. The atmosphere of the room is kept dry by the use of chloride of calcium, which absorb the moisture, and it is passed out of the building in lead pipes from gutters upon the floor. By this means Mr. Nyce says he gets rid of decay by destroying the elements which produce or support decay. Mr. Nyce has studied this principle closely for years, and is fully satisfied that his theory is correct. This building is now stored with six thousand bushels of apples, seven tons of Catawba grapes, fifteen hundred bushels of tomatoes, and a large quantity of butter and eggs, pumpkins, &c. As the house was not ready till late in the season, the proprietors were not able to get it entirely filled when the time came for closing it for the season. This enterprise is deeply interesting to all who raise and would preserve our fine fruits, and its perfect success is devoutly to be wished for, a fact which we hope to be able to announce when the fruit rooms are opened next spring.—*Ohio Farmer.*

HOME AGAIN. Mr. Daniel Barker, a frequent contributor to our columns, has re-

turned after an absence of some months in England having picked up some novelties in the way of seeds, &c., He offers them for sale. See advertising columns:

BOOKS, &c., RECEIVED.

WET DAYS AT EDGEWOOD, with Old Farmers, Old Gardeners and Old Pastors. By the author of "My Farm of Edgewood." New York. Charles Scribner. Price, \$2 00.

One of the most graceful writers we have, is the scholarly farmer of "Edgewood." This last issue is the result of a vast research among writers on agricultural matters from Hesiod and Homer down to Loudon. It adds new dignity to a farmer's life to read of these old authors and scholars, and the attention they gave to agricultural pursuits. Rubbish is cast aside and the pages glisten with selected gems.

All farmers who have a library, (and all ought to have;) all country gentlemen, and those who appreciate such a readable and fascinating writer, will find this book a desirable addition.

NEW WORK ON THE ORCHARD HOUSE. — Cordon Training of Fruit Trees for the Orchard House and Open Air. By T. Collings Brehaut, with a supplement, containing remarks on cordon training of the pear; the cultivation and pruning of peach trees in pots; the best varieties of fruits for pot-culture; and general remarks on orchard-houses, adapted to the climate of the United States. By C. M. Hovey, President of the Massachusetts Horticultural Society, editor of Hovey's Magazine of Horticulture and author of *Fruits of America*. One volume, octavo, price, \$1 25, post-paid to any address. This volume contains, in addition to the large experience of Mr Brehaut, all the information needful for the cultivator to successfully cultivate the peach tree in pots, with selections of the best fruits adapted to the orchard-house and pot-culture. The rapidly increasing demand for orchard-houses and information on orchard-house culture calls for precisely such a work as

this, and we are glad to see that so able an author has taken the field. Orchard-house culture will in a few years be found desirable on places of very moderate pretensions; and in fact the cultivation of all varieties of fruit usually grown under glass is now attracting the attention of the masses. Let the public understand that the mystery in which such things have been kept is a swindle of their intelligence, and that the whole art is one of perfect simplicity and fascination; then these luxuries of life will become more abundant.

HISTORY OF THE AGRICULTURAL ASSOCIATIONS OF NEW YORK, from 1791 to 1862.
By William Bacon, of Richmond, Mass.

GOLEMAN'S RURAL WORLD, AND VALLEY FARMER. St. Louis, Mo. Vol. 18, No. 1. Semi-monthly. Two dollars per annum. This is the **VALLEY FARMER** in a new dress, large quarto size, good paper, and fine typographical appearance, and has all the evidences of prosperity and careful editorship. Now that Missouri is free, and its rich agricultural treasures open to all, the Valley Farmer will have a new field in which to extend its influence and reap its reward. Missouri naturally has all the elements of an agricultural paradise and will bear a strong introduction to the attention of our westward-bound settlers, and the immense swarm of emigrants that daily land at Castle Garden, in search of new homes and new enterprises.

NEW ENGLAND FARMER. Published at Boston, by R. P. Eaton & Co., weekly, at \$2 50 per annum in advance. After a suspension of some months this popular Journal reappears, exhibiting its former enterprise. This paper, now in its twentieth volume, has always been considered a standard sheet, and its disappearance for a time was generally lamented. The usual modesty of publishers has been sorely tried by the great advance in paper and printers' labor and materials, but we know of no case in which a reduction in size was made, or an increase in price but what has been cheerfully consented to. At the old figures

there must eventually have been an end of all publications. Publish a first rate paper, magazine, or book, ask a fair return for the service, and the public are even more liberal in these days of war than in the piping times of peace.

BABBITTONIAN SYSTEM OF PENMANSHIP. Published by Babbitt & Wilt, Miami Commercial College, Dayton, Ohio.

This system is self-teaching, with full explanations, copies, &c., is so well arranged that one desirous of learning can soon acquire the whole mystery without the aid of a teacher. It is sent by mail, post paid, to any address, for one dollar and fifty cents. After a thorough examination of this system, we find ourselves unconsciously writing a better hand than has hitherto been our practice.

ACT OF INCORPORATION, AND BY-LAWS OF THE PENNSYLVANIA HORTICULTURAL SOCIETY. Instituted 1827; incorporated 1831.—We are indebted to one of the active members of this Society for the following, and should be glad at all times to receive a synopsis of such proceedings of the Society as are of general interest. The Society meet at their new Horticultural Hall, southwest corner of Broad and Walnut Streets, Philadelphia.

"The Pennsylvania Horticultural Society is the oldest existing one in the United States, having been instituted in 1827. During the period which has since elapsed, it has enrolled over two thousand names on its list of contributing and honorary members, comprising many of our most distinguished citizens. It has held monthly and annual exhibitions and displays of horticultural products; some of which have never been equalled in this country in extent, magnificence and patronage. It has distributed, in premiums, over twenty thousand dollars, to all classes of contributors, and has been the medium of introducing many new varieties and species of plants, fruits and vegetables that would otherwise have remained unknown to the general public. Its large and valuable library, the most extensive of

its kind in this country, has been the means of disseminating a vast deal, not only of Horticultural knowledge, but of information on other kindred topics of natural science. The social intercourse of its members, also, has served to diffuse a more correct taste and thorough knowledge of the art than had formerly prevailed.

"In order to extend still more widely its sphere of usefulness, and to offer to its members a convenient and attractive place of meeting, the Society have leased the large hall, at the south-west corner of Walnut and Broad Streets; a stately and commodious room, centrally situated, well lighted, and amply spacious for all its monthly displays. The Library will here be readily accessible to every member, one night in each week, and the reading tables will be provided with the leading horticultural papers of the day.

"The Hall will be open every Tuesday evening throughout the year. The first Tuesday evening of each month will be devoted to the discussion of horticultural topics of current interest; the second to the monthly display of fruits, flowers, vegetables, designs, &c.; the third, to the stated business meetings; and the fourth and fifth, to informal conversational meetings, the reading of periodicals and social intercourse.

"The discussion of horticultural subjects on one stated evening of each month, is a new feature in the transactions of the Society, and it is believed, has added much to its attractiveness and usefulness.

"While the other privileges of the Society are confined to members, the competition for premiums is open to all. It is hoped that the liberal action of the Society, in this respect, and the varied and useful character of its meetings and discussions, will induce all its contributors, visitors and friends, to become members, and aid in increasing its usefulness to the community.

"The price of annual membership is three dollars; of life membership, twenty-five dollars, which entitle to one member's and

two ladies' tickets of admission to every meeting and monthly display, also to the free use of the library, both at the hall and at home, privileges which are a rich equivalent for the small contribution required.

"Persons desirous of becoming members, can do so on application to the Collector, or to any officer or member of the Society, one month prior to admission."

VICK'S ILLUSTRATED CATALOGUE OF SEEDS, AND GUIDE TO THE FLOWER GARDEN, for spring of 1865. Containing accurate descriptions of the leading floral treasures of the world, with plain and full directions for sowing seed, transplanting and after culture, illustrated with numerous engravings and two colored plates. This is one of the most complete catalogues that has come under our notice, and is evidence of the energy and business talent of Mr. Vick. The most successful men are those who deal in first class articles, and advertise them in a liberal manner. This catalogue is sent, post-paid, for ten cents, and Mr. Vick's regular customers receive it free.

Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Vines, Roses, and Green-House Plants, cultivated and for sale at W. L. Ferris' Oakland Nursery, Throg's Neck, Westchester Co., New York. 1864 and 1865.

Catalogue of Fruit and Ornamental Trees, Evergreens, Flowering Shrubs and Plants, for sale by F. Trowbridge, Milford, Conn.

Transactions of the Hampshire, Franklin and Hampden Agricultural Society for the year 1864. Forty-sixth annual report.

President's Opening Address, Illinois State Fair, Decatur, 1864. By William H. Van Epps, President Illinois State Agricultural Society.

CORRESPONDENCE.

Vernon, Oneida Co., N. Y., Jan. 9, 1865.
 Geo. E. & F. W. Woodward, 37 Park Row, N. Y.

Gentlemen:— * * * * *

From my early boyhood I have had a passionate love for the growing and tending of fruits and flowers, and it seems as if every year added to my passion for these things, and I think I can truly and safely say that but few have so great a love for a tree, a shrub, or a plant; and I have long looked forward for the time when I could build my home in the country, where I should have room to gather my floral friends around me, and become surfeited with those fruits God has so bountifully bestowed upon us: in fact, build up a home in which I could feel happy and contented.

I have just been reading "Ten Acres Enough," and the perusal has but added fuel to the flame. It almost made me forget my present position, and transported me to the beauties and happiness of the author's home; and now the question comes up, Why cannot I go and do like him? as I take it from his book, there is still room. But I am a comparative stranger in New Jersey, only I know it has been the ridicule of other states, and represented as almost a sandy waste; but its climate I have always supposed to be fine, and much more mild than central New York. Am I right in regard to its climate, and has its soil been grossly misrepresented? In your opinion, can the growing of fruit be made profitable, if properly conducted? Are desirable lands in desirable locations still to be bought there at reasonable prices? What section of the State is the best for the object I am writing about, good society included?

Now, as you understand something of my feelings, and supposing I had a capital of from \$2,000 to \$10,000, what counsel would you give? Yours truly,

L. A. GRISWOLD.

There is an old proverb something like

this "that boys throw stones at fruit trees." New Jersey stands among her envious sisters, a tree with golden fruit, and gracefully receives the ridicule and deep rooted prejudices so industriously exercised and cherished against her; silly prejudices that have existed and increased from generation to generation from the earliest settlement of the country.

You are right in regard to its climate, and its soil has been grossly misrepresented, the Northern half of the state with which we are familiar, is as far from a sandy waste as the Genesee valley, and there are many counties that are unsurpassed in the fertility and beauty of the land by any section this side of the Prairie States. In our opinion Fruit growing of almost every description and every agricultural pursuit properly conducted can be made very profitable, all parts of New Jersey, being accessible to the two great markets on this continent, New York and Philadelphia. Desirable lands in desirable locations can be had at reasonable prices, say from eighty to one hundred dollars per acre, in Greenbacks, for good farming lands, improved, and within two hours travel of New York, fancy sites near depots command higher figures. We paid \$300 per acre for our own farm, 30 acres, ten miles from the City Hall, close by the first depot on the Erie Railway, our business hours in New York are from 9 to 5 and we can go from our library table to our office desk and vice versa (fourteen times daily) in 45 min. in summer, and 55 minutes in winter. The southern part of New Jersey we are not familiar with, but we are contemplating a "raid" in Strawberry time to Burlington and thence down, among the new settlements, if our friends in that vicinity will show us the way out in time for publication day.

The best counsel we can give you is to come down and look the state over, see for yourself, we think you will be well treated. (Eds.)

SANDY HOOK, Fairfield Co., Conn.
January 14th, 1865.

MESSRS. WOODWARD: What, in your opinion, is the best exposure for orchards, particularly apple and pear orchards, (the latter containing both standards and dwarfs)? For the grape a southwestern exposure is recommended as generally preferable, but I think I have seen a northern exposure spoken favorably of, for the apple in particular; as a warm spell in the early spring would prematurely start the buds, to be nipped by a cold spell afterwards. If you can answer this question, about the apple and pear in the columns of the *Horticulturist*, it may benefit several of your subscribers, and particularly one young in life, who has just commenced Horticultural pursuits. Yours,

S. N. BEERS.

In your latitude we should prefer a southern exposure for an orchard. Such an exposure would prolong the season and enable the wood to ripen better than with a northern aspect. South of this, north hill sides would be preferable.

Buffalo, Jan. 12, 1865.

MESSRS. GEO. E. & F. W. WOODWARD:

On reading the construction of the model Suburban Cottage in the January number, it occurred to me to ask you, whether the construction of such a wall could be made by laying up the slats so as to leave one, or even two inches of space between them, and have that space filled up with coarse gravel mortar, while laying up the slats?

Could such a wall be made as cheap, or cheaper, as all slats, so as to answer for out-buildings or barns, where the gravel would be on the spot?

If these questions would not be objectionable to be answered in the *HORTICULTURIST*, it would oblige at least one subscriber.

G. Z.

The slats can be laid one or two inches apart and filled in with mortar, and would save some in the expense.

We think the best manner of making a

cheap wall, is to construct a light skeleton balloon frame, and fill in with grout and gravel, thus making a gravel wall, with the addition of corner posts, door and window posts, and in wide spaces between windows, one or two perpendicular studs may be introduced; the side girts and plates attached to these give firm bearings for floors and rafters, and knit the walls firmly together. The expense is not much greater than a simple gravel wall, as the skeleton frame can be made use of in the erection as a guide to the mortar work. For a full account of the manner of constructing balloon frames, illustrated, see Tucker's Annual Register for 1862; price, 30 cents, postpaid. The balloon frame for all classes of buildings is stronger and *forty per cent. cheaper* than any other manner of framing. We have built many of the most expensive houses in the country in this manner. The challenge in the Annual Register to all mechanics and practical men in the country, to prove the contrary of the above assertion, has not yet been taken up.

A mechanic who would erect a building at the West in the heavy timber, mortise and tenon style, would be voted a fossil, and find his occupation gone—old fogy ideas in architecture, as well as in agriculture, being unpopular there.

Hutchinson Station, Ky. C. R. R.,
Jan. 2, 1865.

GENTS.—Enclosed find two dollars. Send to my address the *HORTICULTURIST* for 1865, and turn all the unemployed German emigrants around you in this direction. We can give them all employment on Bourbon lands, good homes on productive soil, with every prospect of their comfort for the future. No fear need be entertained of guerrilla parties where you are not in possession of a good horse. Respectfully,

W.M. KENNEY, M.D.

Catskill, Dec. 16, '64.
MESSRS. GEO. E. & F. W. WOODWARD:
DEAR SIRS—Your note in regard to the Jonathan apples was duly received.

The more I see of the Jonathan the more I am impressed with its superiority. It combines more good qualities than any other apple I know of. In the first place (although rather a slow grower,) the tree will bear very young. Grafted on an old tree the third year will produce a good crop. Its extreme beauty is only surpassed by its excellent flavor. Although a tender apple, its keeping qualities are the best. It is good for table use now, and, if properly packed, will keep unimpaired until March. A few years ago I had occasion to clear out my cellar preparatory to getting in the fall crops, when in a barrel I found three Jonathan apples which had been there a year (although somewhat shriveled) perfectly sound.

If there is a fault about the Jonathan it is that it bears too full crops. My trees in many cases have been badly broken. This fall they presented a most beautiful sight, loaded to breaking with their brilliant fruit. The low habit of the tree is also a great advantage on account of winds, and also renders them comparatively an easy apple to gather.

Lastly, as a market fruit it is unsurpassed. My salesman has not for the last five years sold them less than four dollars per barrel, and this year he gets ten dollars (always from two to four dollars more than Spitzenbergs or Greenings.) I prophesy for this kind a wide popularity, not only with the consumers, who are governed by *appearance* and *taste*, but also with fruit growers, who always like to raise those kinds which are sure to produce well and regularly.

I have several Jonathan trees that this year netted me clear profits from forty to sixty dollars each. Most truly yours,

THEO. A. COLE.

Cleveland, 22d December, 1864.

GENTLEMEN:—Yours of Sept. 8, relative to notice of Grape Show was duly received. I regretted you had no notice of it, as the show was my own individual effort, and although it was a success so far as varieties on exhibition could make it so, yet to my pocket it was not complimentary. The ad-

interim Committee of our State Pomological Society, however, met there at the time, and held discussions (open to all) on varieties, &c., &c. All of which will in due time appear in the Transactions.

The Grape Subject is a very important one to Ohio and especially to the border of Lake Erie. There are now at the least calculation 4,000 acres in vineyard on the shore and islands, and individuals are making calculations to plant largely the coming spring. Companies are also forming and preparing to plant in tracts of 200, 300 and 400 acres each, at the rate of say 30 to 50 acres each yearly. Individual vineyards hereabouts, have this year paid their owners in fruit alone over \$1500 per acre, and as the supply increases so also the demand. I am now getting out a circular calling for a meeting at Cleveland on the 1st of Feb. or thereabouts, for the purpose of forming a State Grape and Wine Growers Association, to hold quarterly meetings at different points, for the discussion of soils, pruning, &c., and annually a show of Grapes and wines for comparison, &c.

We are but just learning of the wants of our native grapes, and all the old routine plans of pruning *tide* Mead, Grant & Co., are useless in vineyards of Catawba, Concord, Norton's Virginia, &c. Again all old stereotype ideas of having limestone soil, or wanting that, preparing it 18 to 24 in. deep and dressing heavily with lime etc., have got to be looked over with leather spectacles, for many of our best grown grapes this and past years have been on soils where hardly a trace of lime can be found and where no such preparation has ever been had. Animal manures are all bosh except to create long straggling growth of puny wood, keeping the vine growing so late that one fourth of the wood is green on approach of severe frost, while not one bud in ten is well matured.

I expect to see great changes in ideas respecting grape culture, soils requisite, &c., &c., during the next ten years.

When you are telling your readers about peach tree borers *Egeria exitiosa*, say that

at any time before the buds swell in Spring, if they will take away the soil, baring the crown and upper roots, clean out the grubs and then swab all over, and 6 inches to a foot up on the body with coal tar, no borers will attack the tree for two years to come. The work however must be done while the tree is in its dormant state or the coal tar will destroy it.

Yours &c., F. R. ELLIOTT.

Warsaw, Ill. Jan. 6, 1865.

MESSRS. WOODWARD:—The January No. of the HORTICULTURIST came yesterday. I was most agreeably surprised, for I had been lead to believe that it would be of no value in future—at least, have been assured that such would be the case, by persons with whom I have done business—persons living in New York State. I have taken it for two years, and can safely say that, to my mind, this is a *far superior number to any of the others.*

On my sandy south-side hills, my Catawba vines produce better fruit and two weeks earlier than any other vines in this town. Will it pay me to ship the fruit to eastern cities for sale, provided I grow fruit of extra quality? What could I usually get per pound for Catawba, Diana, Delaware, Iona and Allen's Hybrid grapes—very fine? Where is my best market; or will it pay better to make wine? CHAS. J. MAY.

We give below the wholesale and retail prices from two well known reliable New York dealers in grapes. Catawba Grapes at 20 cents per pound and Wine at three dollars per gallon nett prices, would yield about the same profit, but as fruit is shipped at a risk, being perishable, &c. Wine would be most preferable in your locality; we would decide in your case to make wine and not rely on the New York market for sales of fruit. The Diana being a good market grape, a good keeper, &c., would pay well at \$1.50 per pound, even if it possessed all the faults of its parent. This would pay for rot, mildew, and an occasional worthless crop. If the Catawba does well with you, Diana will probably do better. The

Iona and Allen's Hybrid Grapes are not yet known in this market. That is, we have not been able to buy them nor find a dealer who has had them.

New York; Jan. 21, 1865.

GEO. E. & F. W. WOODWARD.

Gentlemen—No trouble to answer your questions. I will give you a complete detail from my books.

I will commence with Concord. The first I received was September 8th, and they sold for 50 cents. The next week they fell to 20 cents and continued at that price to October 8th, when they fell to 15 cents, and sold at that to November 12th, when they advanced to 20 cents and gradually disappeared from market the last of the month. These were the wholesale prices, the general retail price was ten cents advance on these. The first Delaware received September 10th sold at 75 cents, the next week they fell to 50 cents a pound, the next week to 40 cents, the next week, Sept. 28th, 25 cents a pound. Oct. 8th, 20 cents. There has only been a few lots in since they have been sold from 20 to 25 cents. They would bring 35 cents to-day.

Catawba Grapes have sold from 20 to 25 cents a pound the last season, up to the holidays. They are bringing 30 cents now in good order. Diana's opened at \$1.50 and fell off to 35 cents in August. There are few in now, wholesaling at \$1.50.

I have Catawba Grapes from August to March.

I have given you above the prices of first quality.—Respectfully,—JOSIAH CARPENTER.

W. & C. SMITH, wholesale and retail dealers in foreign and domestic fruits, 152 Broadway, N. Y., give us the following in black and white, as retail rates during the fall season, 1864: they have no grapes on hand at this time, January 18th.

Concord,	per pound,	40 cts.
Delaware,	"	40 "
Catawba,	"	30 to 40 "
Diana,	"	40 "
Rebecca,	"	40 "
Isabella,	"	20 to 25 "
Hartford Prolific,	had none.	

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Fig. 1.

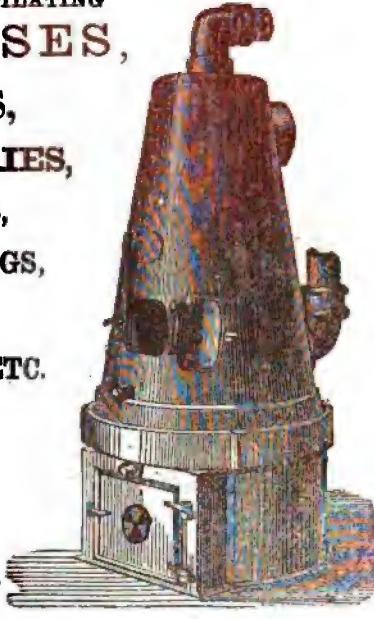


Fig. 2.

HITCHINGS & CO., 248 Canal St., New York, near Centre St.

Cuts illustrate the general appearance of the Boilers. They are Simple, Compact, and
and are unequalled for Efficient Heating Power, Economy in Fuel, Steady Action, and
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may be safely left ten or twelve hours, without replenishing the fire, and without attention during the
weather, and do not require scraping and cleaning to make them effective, there being no down drafts
or passages to choke up.

1 is a view of the New Combination Cone and Flue Boiler, Patented 1860, for which we re-
ceived the Gold Medal, awarded for the Best Heater for Green-Houses, by the American
Institute, 1861. They combine all the advantages of the Conical Boilers, with nearly double the amount of
surface. The flame and heated gases escaping from the fire chamber, pass through the water jacket-
which is carried round the boiler, and the heat that would otherwise pass up the chimney is absorbed
and added to the water, making this the most economical Boiler ever offered to the public.

2 is a view of the Improved Conical Boiler so favorably known. They are cheap and reliable,
on the exception of the Combination Boiler, are superior to any other Boiler made for the purpose.

REFERENCES.

Florist, 9 W. 17th St., N. Y.	D. Clark, Florist, B'way and 7th St., N. Y.	C. Spooner, Esq., Bridgeport, Conn.
Florist, 673 Broadway, " "	T. G. Yeomans, Nurseryman, Walworth, "	E. G. Spaulding, Esq., Buffalo, N. Y.
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	John Bard, Esq., Barrytown,	J. Brown, Esq., Hamilton,
		Edward Avison, London.

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THE
HORTICULTURIST.

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LACKLAND'S HOUSE PLANS.

UNFORTUNATELY, almost every city gentleman who comes into possession—whether by purchase or otherwise—of a plain country house, from which some honest, well-to-do farmer has just decamped, puzzles his brain first of all, to know how he shall make a “fine thing” of it. My advice to such puzzled gentlemen, in nine cases out of ten, would be—“not to do it.”

If the ceilings be low, and the beams show here and there the generous breadth and depth of timber which old-time builders put into their frames, cherish these remembrances of a sturdier stock than ours; scrub and paint and paper as you will, but if the skeleton be staunch, and no dry rot shake the joints or give a sway to the floors and ceiling,—try, for a few years at least, the moral effect of an old house. It can do no harm to a dapper man from the city. It may teach his wife possibly some of the humilities which she cannot learn on Broadway. With a free, bracing air whistling around the house corners, and here and there an open fire within, low rooms are by no means poisonous; and if the trees do not so far shade the roof as to

keep away the fierce outpourings of a summer's sun, and the low chambers carry a stifling air in August, it is only necessary, in many instances, to tear away the garret flooring, and to run up the chamber ceilings into tent-like canopies, with a ventilator in their peak—to have as free circulation as in the town attics. And such tented ceilings may be prettily hung with French striped papers, with a fringe-like border at the line of junction of the vertical with the sloping wall—in such sort that your military friend, if he comes to pass a July night with you, may wake with the illusion of the camp upon him, and listen to such *reverilles* as the crowing of a cock, or the piping of a wren.

But a monstrous and intolerable grievance to all people of taste lies in the attempt to set off one of those grave exteriors, at which I have hinted, by some of the more current architectural cockneyisms. Thus, an ancient door, with the dark green paint in blisters upon it, and opening in the middle, perhaps, is torn away to give place to the newest fancy from the sash factories, blazing with red and blue glass. For my

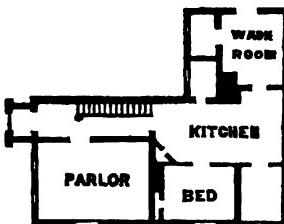
part, I have great respect for a door that has banged back and forth its welcomes and its good byes for half a century; the very blisters on it seem to me only the exuding humors of a jovial hospitality; and all the weather stains are but honorable scars of a host of battles against wind and rain. I would no more barter such an old time door against the newness of the joiners, than I would barter old time honesty against that of Oil Creek, or of Wall Street.

Then again, your cockney must tear away the homely sheltering porch, with its plank "settles" on either side, for some stupendous affair, with columns for which all heathenism has been sacked to supply the capitals.

If renovation must be made, it should be made in keeping with the original style of the house—except indeed change go so far as to divest it altogether of the old aspect. In some farm houses that may be taken in hand for repairs, it might be well even to strain a point in the direction of antiquity, and to replace a swagging door by a staunch one of double-battened oak or chestnut, with its wrought nails showing their heads in checkered diamond lines up and down, and its hinges, worked into some fanciful pattern of a dragon's tail, exposed. Then there should be a ponderous iron knocker, whose din should reach all over the house, and the iron thumb latch—not cast and japanned, but showing stroke of the hammer, and taking on rust where the maid cannot reach with her brick dust. Of course, too, there should be the two diamond lights like two great eyes peering from under the frontlet of the old fashioned stoop. All these, if the house be so ancient and weather stained as to admit of it, will demonstrate that the occupant is among the few who are left in these days of petroleum, who make a merit of homeliness, and cherish tenderly its simplest features. If the house be really weak in the joints, the sooner it comes down the better; but if it has snugness and stiffness and comfort, let not the owner be persuaded of the carpenters to graft

upon it the modernisms of their tricksy joinery. I can well understand how a dashing buck of two or three and thirty should prefer a young woman in her fur-below, to an old one in her bombazine; but if the fates put him in leash with an ancient lady, let him think twice before he bedizens her gray head with preposterous frontlets, and puts a mesh of girls' curls upon the nape of her old neck.

I have said all this as a prelude to a little talk about certain changes which my friend Lackland has wrought in his country place—thirty miles away by the New Haven Road. The house he purchased could boast no respectability of age. The height of its rooms was of that medium degree which neither suggested any notion of quaintness nor of airiness. Its entrance hall was pinched and narrow; its stairway inhospitably lean, and altogether its appointments had that cribbed and confined aspect which to one used to width and sunshine, was almost revolting. The wash-room was positively the only apartment below stairs which had a southern aspect. I give his drawing of it, and it is a good type of a great many "small and convenient houses" scattered through our country towns.



"Of course this will never do," wrote Lackland to me, "and yet the skin of the house (as our carpenter calls it) is very good, and I wish to make the needed changes so far as possible, without disturbing the exterior outline of the main building. But how shall I rid myself of that preposterously narrow entrance way in which I can almost fancy Mrs. L., (who is something large) getting wedged on some

warm day? How shall I throw light into that dismal parlor? You will perceive that along the whole south front there is not a single available window below. Now, half the charm of a country place, to my notion, lies in the possession of some sunny porch upon which the early vines will clamber, and under whose eaves the Phoebe birds will make their nests. I want too, my after dinner lounges at a sunny door, where I can smoke my pipe, basking in the yellow light, as I watch the shadows chasing over the grass. About the stupid little design I send you, there is neither hope nor possibility of this.

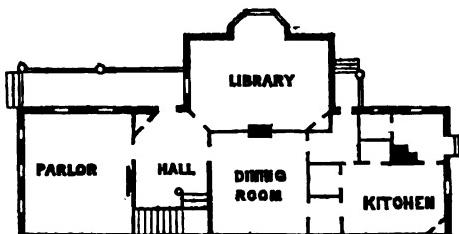
"Again, even with a dining room, or library added, and perhaps a kitchen, I shall be still in want of further chamber range, which if I gain (as our carpenter suggests) by piling on a story more, it appears to me that I should give to the narrow front of the house an absurd cock-loft look that would be unendurable.

"Mrs. L. and myself have scored out an incredible number of diagrams—all which have been discussed, slept on, admired and eventually condemned. Sometimes it is the old pinched entrance way that works

condemnation; sometimes (on my part) the lack of sunny exposure; and oftenest (on hers) the lack of closets. She insists that no man yet ever planned a house properly on this score. She doesn't see clearly (being deficient in mathematics) why a closet shouldn't be made in every partition wall. She don't definitely understand, I think, why a person should thwack his head in a closet under the stairs. She sometimes (our carpenter tells us) insists upon putting a window through a chimney; and on one occasion (it was really a very pretty plan) contrived so as to conduct a chimney through the middle of the best bed room; and the best scheme of all, to my thinking, positively had the stairs left out entirely.

"In this dilemma, I want you to tell us what can be done with the old shell, so as to make it passably habitable, until we find out if this new passion for country life is to hold good."

Upon this I ventured to send him this little plan of adaptation, which, though not without a good many faults that could be obviated in building anew, yet promised to meet very many of their wants, and gave to Lackland his sunny frontage.



"Here you have" I wrote him, "your south door, and porch to lounge upon, and your south bow window to your library, which if the rural tastes grow upon you, you can extend into a conservatory, covering the whole southern flank of the apartment. The parlor, too, has its two south windows, and although I should have preferred to place the chimney upon the northem side, to the exclusion of the window

there, yet it seemed best to make use of the flue already established. The hall is well lighted from the north, and will give room for the hanging of any of your great-aunt's portraits, if you have any.

"There is an objection to traversing the dining room in going from the kitchen to the hall door; but it could not well be obviated, with the existing shell of your house, without reducing the size of the

dining room too much, or (another resource) without increasing largely the dimensions of the hall—throwing the intervening space between it and kitchen into store rooms and making the library do duty for the spread of your table.

"The dining room moreover, having only north exposure you may condemn as dismal. I propose to obviate this, and to give it a cheerful south light by an extravagance which I dare say the architects will condemn, but which will have its novelty and possible convenience.

"The fire places of library and of dining room, are, you observe, back to back. Now I would suggest that the two flues be carried up with a sweep to either side (uniting in the garret) in such sort, that a broad arched opening shall be left above the mantel from one room into the other. This may be draped, if you like, with some tasteful upholstery; but not so far as to forbid a broad flow of the warm light from the bow window of the library; while upon the mantels of even height, you may place a Wardian case that shall show its delicate plumes of fern between your table, and the southern sunlight all winter long. It would moreover be quite possible, owing to the breadth of partition wall afforded by the two flues, to arrange folding shutters for the complete closing of the arch-way when-

ever desired. For my own part, I love such little novelties of arrangement, which mark a man's house as his own, however much they may put the carpenters to the gape.

"As for the additional chamber room, never think of putting a third story upon so narrow-throated a house, or you will give it an irredeemable gawkyness. If the space be needed, find it by throwing a mansard roof over all, and lighting your cock-lofts with dormer windows. Then paint with discretion; avoid white, and all shades of lilac—the most abominable color that was ever put upon a house;—you can't match the flowers, and don't try, I beg. A mellow brown or a cool gray are the best for the principal surfaces. In the trimmings study narrowly the gradients of color. Let there be no forced contrasts, and no indecisive mingling of tones; above all, remember that with your elevations, you want to aim to reduce the apparent height; work in, therefore, as many horizontal lines of decisive color as your exterior carpentry will allow; give dark hoods, if you will, to your front parlor windows, and let the cornice-finish below your mansard roof reach well down, and carry dark shading.

"When you are fairly in I will come and see how you look.

Edgewood, March, 1865."

A CHAPTER ON ORCHIDS.

BY EDWARD S. RAND, JR.

Continued from March Number.

HAVING now given the general cultural rules which apply to the great mass of Orchidaceous plants, it now only remains for us to describe those plants which require peculiar treatment—and to prescribe the special culture necessary for the successful growth of each.

Sobralia macrantha.—This is a tall-growing semi-terrestrial orchid, with tall reedy stems producing large flowers, which some-

what resemble a Cattleya. They sometimes measure six inches across, and are of a rich purple crimson, but the colors vary much in intensity on the different varieties.

These flowers are produced from the top of the stem, one at a time, and remain in beauty only a few days; but as if in compensation for their almost ephemeral duration, as many as five flowers are frequently

produced in succession on each stem of a strong plant.

This plant is a native of Guatemala and thrives in either the East Indian or Mexican house, blooming during the summer.

It should be planted in a compost of rough fibrous peat, leaf mould, turf, loam, with a slight admixture of silver-sand. All Sobralias have strong asparagus-like roots and require large pots. In their native country they grow in marshy ground on little raised hillocks. During the rainy season they have abundance of moisture, the plants then grow and flower; but during the dry season they often become parched.

To grow them successfully, we must thus regulate our treatment; from March to August give abundance of water; from August to December supply it more sparingly, and from December to March give none at all. These plants are easily propagated by division. There are many species all requiring the same treatment, some with blossoms lasting only a few hours in perfection, and some with white, deliciously fragrant flowers.

Dendrobium speciosum.—A fine species with large creamy white flowers, spotted with crimson. This plant is seldom well grown, because it is kept too hot. It is a native of New Holland, where the air is much drier and cooler than in the tropical regions where epiphytes are usually found. It should be grown in the Mexican House, and the maximum of temperature afforded should be 65° in summer, while in winter a minimum of 45° will not be too cold. Like all Dendrobiums, the plants require a season of rest.

Dendrobium Jenkinsii.—A beautiful dwarf evergreen species from India, only growing two inches high. The flowers are pale buff edged with yellow, and are very large for the size of the plant. The plant should be grown on a bare block of wood suspended from the roof of the house.

Caelogyne cristata is a lovely plant. Pot in a mixture of peat, half-decayed leaves

and silver-sand, and grow in the coolest part of the East India house. The plants bloom in February and should be potted just as they begin to grow.

Caelogyne praecox, *Wallichiana*, *maculata*, *lagenaria*, &c., form an entirely separate group and are often called Pleione. They are deciduous, forming curiously spotted bulbs. Pot them in loamy peat, leaf mould and sand, and grow on a shelf near the glass in full light. The flowers appear before the leaves out of the same sheath, and when the plants are well grown, are as plentifully produced as in a pot of crocuses.

The leaves should be well grown to ensure good flowers. They need a season of perfect rest and should be planted in small pots.

BARKERIAS should be grown on blocks without moss in the Mexican house at a maximum temperature of 65° and a minimum of 40°. Give plenty of air, syringe frequently while in growth, but give very little moisture during the resting season. The best species are *Skinnerii*, *Lindleyana*, *melanocaulon* and *spectabilis*.

B. elegans, is a very beautiful plant which, if not lost to cultivation, is very rare.

Anectochilus setaceus.—A lovely terrestrial orchid with variegated foliage, a native of Ceylon. The beauty of the plant is only in the foliage, of which the ground-color is dark velvety green, tinged with a metallic lustre, inlaid with a golden network. A variety (*pictus*) has a broad golden stripe down the centre of the leaf. The plants should never be allowed to bloom as the flowers are inconspicuous.

A. Lobii, *Lowii* and *xanthophyllum* are very fine species.

These plants are all of peculiar culture. They should be grown in the shade in the East Indian house under bell-glasses, in shallow pots. Drain the pots well, and pot in a compost of sandy peat, fine chopped sphagnum and silver-sand; elevate the plant a little above the rim of the pot, and press the compost well around it. Then plunge the pan containing the plant into

another several sizes larger and fill in all around with sphagnum; rest the bell glass just within the rim of the larger pot, and frequently wipe the glass lest too much moisture collect upon it. During summer, which is the growing season, the plants should have plenty of water, but during the winter months very little is required, it usually being sufficient to moisten the moss in the outer pan. The season of rest should be short and be during the colder months of winter. All the plants are small, varying from two to six inches in height.

Cypripediums should be in every collection: they are all terrestrial orchids and are easily grown in a compost of turf loam, fibrous peat and leaf mould, with a little silver-sand in well drained pots. There are some fifty species, many of which, such as *acaule*, *parviflorum*, *calceolus*, *spectabilis* and *arietinum*, are hardy and may be grown in a Rhododendron bed in the open air.

C. insignis, a fine Indian species, will live in a green house, but thrives better in the cooler part of the stove: the sepals and petals of the flower are yellowish green, shaded to reddish brown and spotted with dark brown; the centre petal is tipped with pure white, the lip is greenish orange tinged with rich brown. The flowers remain many weeks in perfection.

C. venustum somewhat resembles the last, but is a smaller plant; the foliage is beautifully marbled.

C. barbatum and *purpuratum* have mottled foliage with sepals and petals brownish purple, lip white with reddish stripes.

C. hirsutissimum, *Javanicum*, *Fairianum*, *Lowii* and *Stonei*, are very fine species.

The following orchids are all of easy culture and are mostly obtainable in this country at moderate prices.

Acineta Barkerii, from Mexico—flowers yellow—basket culture.

A. Humboldtii, from La Guayra; flowers deep chocolate, spotted with crimson.

Erides odoratum.—A fine orchid from India. Blossoms white, stained with pink; exquisitely fragrant; foliage, light green, ornamental.

A. affine, *crispum maculosum*, *roseum*, *quinquevulnerum* and *virens* are magnificent species.

All these plants should be grown in the East Indian house, and require but a short season of rest, and should never be allowed to become perfectly dry; they should be grown on blocks or in baskets, but will do well in pots.

ANGULOS Clowesiana.—Flowers, pure yellow, with pure white lip. From Columbia.

A. Barkerii, from the same country.—Flower, rich brownish orange, with yellowish lip.

A. uniflora, Columbia.—Flowers, white

These plants bloom in summer. Grow in the East India house, but give rest in a cooler house. Pot culture.

ANSELLIA Africana.—A magnificent African orchid. Flowers, pale yellow, spotted with purplish brown, from February to May.

Grow in a large pot, in East India house.

BARKERIAS.—Before described.

BLETIA hyacinthina.—A delicate, pretty little plant, with lilac purple flowers. Grow in peaty loam, in green-house or cool house, terrestrial, and should dry off entirely in summer. There are many species of this genus.

BRASSIA.—A genus of free flowering orchids, from South and Central America and Mexico. Pot culture, with plenty of water in the growing season.

B. Lanceana.—Flowers, yellow, spotted with brown.

B. Lawrenciana.—Flowers, yellow and green, spotted with brown.

B. verrucosa.—Flowers, pale green and white; and

B. Wrayai.—Flowers, yellowish green, spotted with brown, are the best species.

BURLINGTONIA.—A beautiful genus.

Grow in baskets, with moss, in good heat, with plenty of water during growth.

B. candida, Demerara.—Flowers, white in summer.

B. fragrans, Brazil.—Flowers, white and pink in May.

B. venusta, Brazil.—Flowers, white at different seasons.

CALANTHE.—A large genus, mostly evergreen, of terrestrial orchids, which should be grown in pots, in loam-leaf mould and rotten dung. The most common species is *C. vestita*, which is deciduous, producing spikes of white flowers, with yellow or crimson blotches (according to the variety) in winter.

CATTLEYAS are too well known to need description. The following are the best:

C. Acklandae, from Brazil.—Flowers, chocolate, yellow and rose. Block culture. A rare plant.

C. bicolor, Brazil.—Green and purple. Pot culture.

C. citrina, Mexico.—Bright yellow. Block culture, and should always be tied to the under side, the leaves hanging downward.

C. crispa, Brazil.—Pure white and laky. Pot culture.

C. guttata, Brazil.—Greenish yellow, spotted with crimson; lip white and purple. Pot culture.

C. Harrissoniae, Brazil.—Rose color. Pot culture.

C. labiata, Brazil.—Rose and crimson. Pot culture.

C. Loddigesii, Brazil.—Rose and lilac. Pot culture.

C. Mossiae, La Guayra.—Rosy purple. Pot culture.

C. Skinnerii, Guatemala.—Rosy purple. Pot culture.

C. bulbosa, Brazil.—Light rose. Block culture.

All the cattleyas are fine plants, and worthy of cultivation; during the growing season they do best in the East Indian house, but when at rest should be kept cool. Grow on peat in well-drained pots.

COELogyne.—See Ante.

CORYANTHES.—A most extraordinary flower, which words cannot well describe. Grow in baskets in good peat.

C. macrantha, Caraccas.—Flowers, orange yellow, spotted with purple.

C. maculata and *speciosa* are good species.

CYPripedium.—See Ante.

DENDROBIUM.—A magnificent genus of

Indian orchids. To flower these plants well they should have a good season of rest and growth; give plenty of heat and water during growth, but little of either when the plants are at rest.

Of hundreds of species and varieties, the following are the best and most common:

D. aggregatum.—Pale yellow. Block or pot culture.

D. calceolare.—Orange, with chocolate lip. Pot culture.

D. Cambridgeanum.—Bright orange; crimson blotch. Basket.

D. chrysanthemum.—Bright yellow; dark red blotch. Basket.

D. chrysotoxum.—Pale yellow. Pot.

D. Dalhousianum.—Pale lemon, edged with pink, with dark crimson spots. Pot or basket.

D. densiflorum.—Rich yellow. Pot.

D. Devonianum.—Creamy purple and pink; lip rich purple, marked with orange, fringed. Basket.

D. fimbriatum.—Bright yellow, beautifully fringed. Basket.

D. Gibsonii.—Rich orange and bright yellow, with dark spots. Basket or pot.

D. Jenkinsii.—See Ante.

D. nobile.—Pink and white, with crimson spots. Pots, basket or block.

D. Paxtonii.—Orange, with dark centre. Treat as *D. nobile*.

D. Pierardii.—Yellowish white. Basket.

D. sanguinolentum.—Fawn color, violet spots; foliage and bulbs lilac. Basket or pot.

EPIDENDRUM.—This is a very large genus, most of the species of which are of little value to the amateur.

They may all be grown on blocks or in pots in the Mexican house.

E. aurantiacum.—Bright Orange. Guatemala.

E. alifolium.—Greenish yellow; white lip. Guatemala.

E. bicornatum.—Pure white; crimson spots. Guiana.

E. cinnabarinum.—Bright scarlet. Per-nambuco.

E. macrochilum.—Brown and white. Guatemala.

E. phoeniceum.—Purple and crimson. Cuba.

E. Stamfordianum.—Greenish yellow and brown. Guatemala.

E. varicosum.—Pink and crimson. Mexico.

E. vitellinum.—Orange, scarlet and yellow. Mexico.

GALAXIA.—A fine genus of terrestrial orchids. Grown in pots, in peat, in East India house.

G. Bauerii.—Pink and purple. Guyana.

G. Devoniana.—Pink and white. South America.

GOODYERA discolor, from Brazil.—Grown in a pot, with peat and leaf mould, in either house. Flowers white and yellow; foliage dark evergreen, velvety.

LELIA.—A fine genus, requiring the same treatment as *Cattleyas*, which they much resemble, only less heat. They all do well with block culture.

L. acuminata.—White or violet. Mexico. Block.

L. anceps.—Lilac purple. Block.

L. autumnalis.—Purple, rose and white. Mexico. Block.

L. cinnabarinia.—Reddish orange. Brazil. Pot.

L. Perrinii.—Purple and crimson. Brazil. Pot.

L. majalis.—Purplish rose. Oaxaca. Block.

LYCASTE.—A class of plants of easy culture, to be grown in pots with peat.

L. aromatica.—Orange; very fragrant. Mexico.

L. Deppii.—White, marked with crimson and yellow. Zalapa.

L. Skinnerii.—White and rose. Guatemala.

MILTONIA.—A beautiful genus. Grow in either house, in pots, with peat.

M. candida.—Yellow, brown and white. Brazil.

M. Clowesiana.—Yellow, chocolate, purple and white. Brazil.

M. spectabilis.—Violet and white. Brazil. The foliage of this species has always a yellow, sickly hue.

ODONTOGLOSSUM.—These plants are best grown in the Mexican house, without much heat or moisture, in pots, with peat and moss.

O. citrosum.—Pink and white. Guatemala.

O. grande.—Brown, yellow, white and purple. Guatemala.

O. membranaceum.—White and brown. Guatemala.

O. Rossi.—White and purple. Mexico. All the *Odontoglossums* are worth growing, and are eminent for showy flowers and fine habit. There are many very fine newly discovered species.

ONCIDIUM.—A large class of showy evergreen orchids. They will thrive in either house, and are easily grown and blossomed.

O. ampliatum.—Large yellow flowers. Guatemala. Pot.

O. Barkerii.—Yellow and brown. Mexico. Pot.

O. bicolor.—Yellow and crimson. Spanish Main. Block.

O. Cavendishii.—Bright yellow. Guatemala. Pot.

O. crispum.—Coppery yellow. Organ Mountains. Block.

O. divaricatum.—Yellow, orange and brown. Brazil. Pot.

O. flexuosum.—Yellow and brown. Brazil. Pot or block.

O. incurvum.—White and red. Mexico. Pot.

O. Lanceanum.—Yellow, crimson and violet. Guyana. Pot.

O. leucochilum.—Yellow and white. Mexico. Pot.

O. papilio.—Brown and yellow. Trinidad. Block.

O. roseum.—Rose color. Honduras. Pot.

O. sphacelatum.—Yellow and brown. Honduras. Pot.

PERISTERIA.—The finest of the genus is the dove plant of Panama (*Espirito santo*).

P. elata.—Grow in rich leaf mould, in peat, in large well-drained pots.

PHAJUS.—A genus of terrestrial orchids, needing rich soil and large pots.

P. grandifolius and *Wallichii* should find a place in every orchid house.

P. albus is a deciduous species, which should have plenty of water during growth, but during rest the plant should be kept perfectly dry, in a cool house, till growth begins.

PHALAEOPSIS.—The finest genus of orchids in cultivation. The flowers are large, white or rose, marked with yellow or red. The plants need the heat of the East Indian house, plenty of water, and only a short season of rest. They do best on a block.

The species are *P. amabilis*, *grandiflora*, *rosea*, *Schilleriana*.

SACCOLABIUM.—A fine genus, resembling *Erides*, and requiring the same treatment. They are very rare in this country. The best species are

S. Blumei.—Violet and white. Java. Block.

S. guttatum.—White and rosy purple. India. Block.

S. miniatum.—Vermilion. Java. Block.

S. praemorsum. White and lilac. Mala-bar. Block.

All do well with pot culture.

SCHOMBURGKIA. A genus of large growing shy flowering plants. *S. tibicinis* is the best. Flowers pink, chocolate and white. Honduras. Grow on a block, with plenty of heat and moisture.

SCIRRICARIA Steelii is a plant with rush-like leaves and large yellow and crimson flowers. Guyana. Grown best on a bit of cork.

SOBRALIA.—See Ante.

SOPHRONITIS.—A class of dwarf plants, with brilliant flowers. Best grown on blocks. With plenty of heat and moisture.

S. cernua. Flowers red. Rio.

S. grandiflora.—Flowers bright scarlet. Organ Mountains.

S. violacea.—Flowers violet. Organ Mountains.

STANHOPEA.—A genus of showy plants of easy culture in moss in baskets. There are many species, all worth growing.

S. aurea.—Yellow. Guatemala.

S. grandiflora. White. Trinidad.

S. insignis.—Yellow, spotted with red. Trinidad.

S. oculata.—Pale yellow and purple. Mexico.

S. guttulata.—Pale yellow, spotted with purple. Mexico.

S. eburnea.—Ivory white. Mexico.

S. tigrina.—Pale yellow and chocolate. Mexico.

TRICOPELIA.—A small genus of pretty orchids. Grows in either house, in pots or on blocks.

T. coccinea.—Crimson and white. Central America.

T. suavis.—White and pink. Central America.

T. tortilis.—Brown, yellow and white. Mexico.

VANDA.—A class of scarce Indian orchids, of noble growth and showy flowers. They require the same treatment as *Erides*.

V. Batemanii.—Yellow crimson and rose.

V. gigantea.—Yellow and chocolate.

V. coerulea.—Delicate lilac blue.

V. Roxburghii.—White and purple.

V. suavis.—White and crimson.

V. teres. Red and yellow.

V. tricolor.—Yellow, crimson, purple and white.

ZYGOPETALUM.—A handsome class of evergreen plants, of easy culture, in pots in peat. They bloom in winter, and are indispensable to a good collection.

Z. Mackayii.—Greenish yellow, brown and lilac. Brazil.

Z. maxillare.—Green, chocolate and rich blue. Brazil.

Z. rostratum.—Green, white and pink. Demarara.

All these orchids we have mentioned may be grown by any one having the appliances described in our former article, and the rich flowers will well repay any reasonable outlay. We very much doubt whether some of the East Indian species can be bought in this country; but there is beauty and variety enough among the South American and Mexican species to well reward any attempt at their culture.

March, 1865.

THE BERRY CULTURE.

BY THE AUTHOR OF "TEN ACRES ENOUGH."

ONE July morning, when my Lawton blackberries were just ready for the pickers, there came to my humble little farm an intelligent gentleman from Vicksburgh, Mississippi, desirous of seeing how fruit-growing in New Jersey was conducted. He was one of those ardent Union men whose goods had been spoiled by disloyal ones at home, his family broken up, and himself imprisoned and condemned to death, a fate from which he escaped by cutting through his prison-bars at night. Until thus ostracised, he had never visited the North, and was thus wholly uninformed of how we, who produced no cotton, could make our agriculture so remunerative. All that he here saw was new as well as surprising. We walked around and over a six acre field of blackberries; he examining, tasting and wondering. He had never before seen a field of cultivated blackberries. He knew that there were thousands of acres of abandoned cotton and tobacco fields in the South, grown up in tangled masses of wild berries; but few gathered the fruit, as no one prized it, nor was it ever sent to market. The wonder was that it was sufficiently saleable here to warrant the cost and labor which he saw bestowed on mine. He considered it the most picayune employment he had ever known to be undertaken. It was neither corn nor cotton—all the agriculture he had ever seen—and, therefore, it must be a small business.

Still, he condescended to inquire if such agriculture paid—if there was a market for the vast crop before him—who in the world bought it, where it was sold, and whether the thing could not be overdone? I told him that my six acres produced an average of \$1,000 per annum; that the great canning establishments in the cities had repeatedly offered to buy the whole crop, and that I was seriously contemplating an increase of my plantation. The figures surprised him, and he thought they made some

approach even to cotton: for, in his small circle of experiences, cotton was the standard for all other values. He began to comprehend how it was that Northern horticulturists were thriving even upon ten acres; that it was by seizing upon those easily-cultivated fruits, which in other sections were wholly neglected, and not only ministering to the public appetite, but stimulating it to increased indulgence. When I told him that some neighbors, within a few miles of me, had been much more successful than myself; that one of them took annually \$1,000 from only two acres of blackberries, he could see that the business of producing such hitherto neglected fruits was worth pursuing, so long as the public called for them.

These discrepancies in crops are sometimes difficult to be explained. By the last annual report of the West Jersey Fruit Grower's Association, it appears that in the four townships of Burlington, Beverly, Chester and Cinnaminson, in Burlington County, there were 488 acres of bearing strawberries under cultivation in 1864. They produced 27,924 bushels of fruit, which produced \$164,633 60. The average per acre was 58 $\frac{1}{4}$ bushels, and the average price nearly \$6 per bushel. There can be no doubt that the foregoing figures do not include more than half the product of these four townships, as many growers keep no correct memoranda of their crops, while many others are unwilling to furnish particulars. An instance may be cited of a very successful strawberry grower in one of these townships, who, in 1863, produced 1,100 bushels from fourteen acres of ground. His neighbors endeavored to ascertain from him what were his profits, but he was mute. One, more curious than the others, went to his New York agents and obtained the amount of his sales, and then going into a calculation of his expenses, they satisfied themselves that the profit from his fourteen

acres amounted to \$3,000. It may be safely assumed that these four townships received, in 1864, at least \$300,000 for strawberries.

They produced, the same year, 9,181 bushels of blackberries, averaging \$4.80 per bushel, and amounting to \$44,068.80. This is an average of a trifle over 50 bushels per acre. But the whole crop may be set down at double the figures reported, for reasons already stated. An acre yielding 50 bushels would thus produce \$240. But one gentleman, in one of the townships named, sells \$1,000 worth from two acres, or more than double the average of the four. This product is undeniable, as his neighbors are observant of his doings, and he makes no secret of his success. How is this superior crop to be accounted for, or why do not all produce crops equally good? Soil and situation, as well as culture, have much to do with the question, but the controlling agency appears to be heavy manuring. The blackberry is a gross feeder, and, probably, cannot be killed by excessive manuring—at least no such instance has come within my observation. The gentleman referred to feeds his plants well, and that is the prime secret of his success. There is near me, probably, a half acre of blackberries, planted some four years ago in what had been a hog-yard for at least twenty years. The excessive richness of the soil causes the plants to throw up immense canes, which are annually loaded with berries of unequalled size. Manure, also, with cleanly cultivation, was the secret by which \$3,000 were realized from fourteen acres of strawberries. One grower of the blackberry, in Burlington County, now has 15,000 gallons of wine in his cellars, the product of that fruit.

The averages, per acre, above given, are manifestly far behind what they ought to be, and hence the limited supply which reaches market. Why is this so? Crops can undoubtedly be trebled. The President of the Association has raised seventy bushels of strawberries on the third of an acre, and a premium crop, some years ago, raised on

twenty rods of ground, yielded 1,052 quarts, or at the rate of 263 bushels per acre. The President says: "It is interesting to inquire whether these crops were merely accidental, or can as good be grown again? Was there a combination of favorable circumstances, and, if so, what were they? Here is a subject worthy of investigation."

Returning to the blackberry. Its hardness and productiveness are truly marvellous. Mr. Parry says that he has had them growing on the same ground over ten years without any indications of depreciation, but rather improving. On ten acres of thin land, from which the sand formerly drifted, like clouds before the wind, he produced, in 1862, 650 bushels of fruit, while the following year the same land yielded 700 bushels, and the next year 800. Counting these up at \$3 per bushel, who can say, with propriety, that ten acres are not enough?

I have been repeatedly told by farmers, and especially by farmers' sons, such as had no faith in the berry culture, that they could find larger and better blackberries than the Lawtons in every hedge-row in the township. I have challenged them to produce them, promising a reward, but none have been forthcoming. Letters from the South, written before the rebellion, have described similar prodigies. One of these I obtained from Georgia, and a second from Alabama. They were taken by careful hands from the huge old fields that abound in those regions, having been marked while in bearing. Both were described as being superior to anything then known. Both were carefully planted and attended to as pets. The Georgia berry proved to be a good one, but far inferior to the Lawton. The Alabama plant was a total failure. Its fruit was smaller than the smallest pea. Whether these plants were depreciated by change of soil and climate, it would be difficult to say. But the search after novelties continues. Seedlings have been annually planted during many years, but so far with no encouraging result. The new and better berry is yet to come.

CULTURE OF THE ROSE.

BY FRANCIS PARKMAN, JAMAICA PLAIN, MASS.

SOIL AND SITUATION.

THE Rose requires high culture. This belle of the parterre, this "Queen of Flowers," is a lover of rich fare, and refuses to put forth all her beauties on a meagre diet. Roses, indeed, will grow and bloom in any soil, but deficient nourishment will reduce the size of the flowers and impair the perfection of their form. Of all soils, one of a sandy or gravelly nature is the worst; while on the other hand, a wet and dense clay is scarcely better. A rich, strong, and somewhat heavy garden loam, abundantly manured, is the soil best adapted to all the strong-growing roses; while those of more delicate growth prefer one proportionably lighter.

Yet roses may be grown to perfection in any soil, if the needful pains are taken. We will suppose an extreme case: The grower wishes to plant a bed of roses on a spot where the soil is very poor and sandy. Let him mark out his bed, dig the soil to the depth of eighteen inches, throw out the worst portion of it, and substitute in its place a quantity of strong, heavy loam,—rotted sods, if they can be had, will be an excellent addition; and so, also, will decayed leaves. Then add a liberal dressing of old stable manure—that taken from a last year's hot-bed will do admirably. It is scarcely possible to enrich too highly. One-fourth manure to three-fourths soil is not an excessive proportion. Now incorporate the whole thoroughly with a spade, level the top, and your bed is ready.

Again, we will suppose a case, equally bad, but of the opposite character. Here the soil is very wet, cold and heavy. The first step is to drain it. This may be done thoroughly with tiles, after the approved methods; or, if this is too troublesome or expensive, simpler means may be used which will, in most situations, prove as effectual. Dig a hole about five feet deep

and four feet wide at the lower side of your intended bed of roses; in this hole place an inverted barrel, with the head knocked out; or, what is better, an old oil cask. In the latter case, a hole should be bored in it, near the top, to permit the air to escape. Fill the space around the cask or barrel with stones, and then cover the whole with earth. If your bed is of considerable extent, a drain, laid in stone or tile, should be made under or beside the bed, at the depth of three feet, and so constructed as to lead to the sunken barrel. Throw out, if necessary, a portion of the worst soil of the bed, substituting light loam, rotted leaves, and coarse gritty sand. Then add an abundance of old stable manure, as in the former case.

In the great majority of gardens, however, such pains are superfluous. Any good garden soil, deeply dug, and thoroughly enriched, will grow roses in perfection. Neither manure nor the spade should be spared. Three conditions are indispensable—sun, air, and exemption from the invasion of the roots of young growing trees. These last are insidious plunderers and thieves, which invade the soil and rob its lawful occupants of the stores of nutriment provided for them.

A rose planted on the shady side of a grove of elm or maple trees is in one of the worst possible of situations. If, however, the situation is in other respects good, the evil of the invading roots may be cured for a time by digging a trench, three feet deep, between the trees and the bed of roses, thus cutting off the intruders. The trench may then be filled up immediately, but, if the trees are vigorous, it must be dug over again, the following year. It is much better to choose at the outset, an airy, sunny situation, at a reasonable distance from growing trees.

PLANTING.

Roses may be planted either in spring or in autumn. In the Northern States the severity of the winter demands some protection when planted in autumn for all except the old, hardy varieties. Plant as early as possible, that the roots may take some hold on the soil before winter closes. October, for this reason, is better than November. The best protection is earth heaped around the stem to the height of from six inches to a foot. Pine, cedar, or spruce boughs are also excellent. When earth alone is used, the top of the rose is often frost-killed, but this is usually of no consequence, the growth and bloom being only more vigorous for this natural pruning. Dry leaves heaped among or around the roses, and kept down by sticks or pieces of board, or by earth thrown on them, are also good protectors. In spring, plant as early as the soil is in working order, that is to say, as soon as it is dry enough not to adhere in lumps to the spade.

In planting, prune back the straggling roots with a sharp knife, but save as many of the small fibres as possible. If you plant in spring, prune back the stem at least half-way to the ground; but if you plant in autumn, by all means defer this operation till the winter is over. The ground around autumn planted roses should be trodden down in the spring, since the plant will have been somewhat loosened in its place by the effect of frost, but this treading must not take place until the soil has become free from excessive moisture. Budded roses require a peculiar treatment in planting, which we shall describe when we come to speak of them.

PRUNING.

Next to soil and situation, pruning is the most important point of attention to the rose-grower. Long treatises have been written on it; describing in detail different modes applicable to different classes of roses, and confusing the amateur by a multitude of perplexing particulars. One

principle will cover most of the ground:—
Weakly growing roses should be severely pruned; those of vigorous growth should be pruned but little. Or, to speak more precisely, *Roses should be pruned in inverse proportion to the vigor of their growth.*

Much, however, depends on the object at which the grower aims. If he wishes for a profusion of bloom, without regard to the size and perfection of individual flowers, then comparatively little pruning is required. If on the other hand, he wishes for blooms of the greatest size and perfection, without regard to number, he will prune more closely.

The pruning of any tree or shrub, at a time when vegetation is dormant, acts as a stimulus to its vital powers. Hence, when it is naturally vigorous, it is urged by close pruning to such a degree of growth that it has no leisure to bear flowers, developing instead, a profusion of leaves and branches. The few flowers which it may produce under such circumstances, will, however, be unusually large.

The most vigorous growers among roses are the climbers, such as the "Boursaults" and the "Prairies." These require very little pruning; first, because of their vigor, and secondly, because quantity rather than quality of bloom is asked of them. The old and dry wood should be cut wholly away, leaving the strong young growth to take its place, with no other pruning than a clipping off of the ends of side-shoots and a thinning out of crowded or misshapen branches. In all roses, it is the young, well-ripened wood that bears the finest flowers. Old enfeebled wood, or unripe, soft, and defective young wood should always be removed.

Next in vigor to the climbers are some of the groups of Hardy June Roses—such, for example, as those called the Hybrid China Roses. These are frequently grown on posts or pillars, in which case they require a special treatment, to be indicated hereafter. We are now supposing them to be grown as bushes in the garden or on the lawn. Cut out the old wood, and the weak unripe and

sickly shoots, as well as those which interfere with others. Then shorten the remaining stems one-third, and cut back the side-shoots to three or four buds. This is on the supposition that a full mass of bloom is required, without much regard to the development of individual flowers. If quality, rather than quantity of bloom is the desideratum, the pruning, both of the main stems and of the side-shoots, must be considerably shorter.

Roses of more moderate growth, including the greater part of the June, Moss, Hybrid Perpetual, and Bourbon Roses, require a proportionably closer pruning. The stems may be cut down to half their length, and the side-shoots shortened to two buds. All the weak-growing roses, of whatever class, may be pruned with advantage even more closely than this. Some of the weak-growing Hybrid Perpetuals grow and bloom best when shortened to within four or five buds of the earth. The strong growing kinds, on the contrary, if pruned thus severely would grow with great vigor but give very few flowers.

The objects of pruning are three-fold. First, to invigorate the plant. Secondly, to improve its flowers; and, Thirdly, to give it shape and proportion. This last object should always be kept in view by the operator. No two stems should be allowed to crowd each other. A mass of matted foliage is both injurious and unsightly. Sun and air should have access to every part of

the plant. Six or seven stems are the utmost that should be allowed to remain even on old established bushes; and these as before mentioned, should be strong and well ripened, and should also be disposed in such a manner that when the buds have grown into shoots and leaves the bush will have a symmetrical form. In young bushes three or even two good stems are sufficient.

Pruning in summer, when the plant is in active growth, has an effect contrary to that of pruning when it is in a dormant state. Far from increasing its vigor, it weakens it, by depriving it of a portion of its leaves, which are at once its stomach and its lungs. Only two kinds of summer pruning can be recommended. The first consists in the removal of small branches which crowd their neighbors and interfere with them; the second is confined to the various classes of Perpetual Roses, and consists merely in cutting off the faded flowers, together with their shoots on which they grow, to within two buds of the main stem. This greatly favors their tendency to bloom again later in the summer.

When old wood is cut away it should be done cleanly without leaving a protruding stump. A small saw will sometimes be required for this purpose, though in most cases, a knife, or what is more convenient, a pair of sharp pruning-shears will be all that the operator requires.

(To be continued.)

THE NEW ERA IN GRAPE CULTURE.

BY GEORGE HUSMANN.

IN the February No. of the *Horticulturist*, I find an article by my friend F. R. Elliott, of Cleveland, Ohio, which, in many respects, evidently hits the nail on the head, in grape culture. While I cannot concur in saying that *all* is bosh which has been said about bone-dust, animal manure, preparing the soil, &c., I still think that the whole

system, as insisted upon by Dr. Grant, Mr. Mead, and others, is not "Grape growing made easy," as it ought to be made to suit the masses, but rather "Grape growing made difficult," and, therefore, will not suit the demands of the age. Let us look calmly and coolly at the facts before us, and try to find what *will* suit.

It is now about eight to ten years since that a new impulse was given to grape culture by the discovery that we possessed varieties of grapes less subject to disease, and in many respects superior in quality to the old standard varieties, the Catawba and Isabella. People found out that they gave surer crops and of higher value than the old varieties; and forthwith commenced the malady which is now so widely spread, and which we know under the name of grape fever, or, as others have it, grape on the brain! People began to believe there was a fortune in every new grape; and found a number of kind gentlemen willing and generous enough to gratify the thirst of something new, by raising varieties from seed, with and without merit, and sell them at high figures, as a special favor, of course.

It is a well proven fact that we have varieties adapted to certain localities and soils, which will give in such locations sure crops every year; and some few varieties seem to have a happy facility of adapting themselves to almost any soil. We have also found by experience, which in such, as in all other cases, is the mother of wisdom, that one variety may fail altogether on a certain soil, where another variety will flourish and thrive remarkably well. Thus we found, as an example, that our Southern stony hill-sides, where the Catawba got sunburnt and scorched every summer, the Norton's Virginia and Herbemont came to greater perfection, and were always fresh and green, whereas the Herbemont did not succeed in our deep clayey loams, where the growth was too rank; and it never fully ripened its wood, yet there the Concord, and in a certain measure the Catawba, succeeded well. A close observation of these facts, obvious to everybody, and of the different habits of the different varieties, first set me to thinking whether different kinds did not also need different preparation of soil. I observed that the Concord made its principal roots near the surface, while the Catawba and Norton's Virginia, to a certain measure, went down with their roots

into the subsoil. So far, all our grape growers had concurred that the only thorough preparation of the soil was by trenching two or three feet deep, and reversing the soil; that is, bring the subsoil to the surface, and the surface earth to where, as they thought the roots of the vine ought to be deep down. This method, of course, necessitated deep planting. The idea struck me that it was somewhat unnatural to bury the grape vine, perhaps the most sun-loving of all our fruit plants, with its roots deep down in the cold subsoil, beyond the influence of sun and air. I began to doubt the necessity of deep trenching and planting, and determined to try a different method.

I was then about to plant a new vineyard on a piece of rough forest soil, newly cleared. Instead of trenching with the spade at a cost of, say \$120.00 per acre, I took a large breaking plough with four yoke of oxen, and made furrows as deep as I could get them, say twelve inches. I had two men to follow the plough with axe and grubbing hoe, to cut away the large roots whenever they obstructed the way; and had a subsoil plough with two yoke of cattle to follow in the same furrow, which loosened the soil say ten inches deeper, making in all a depth of tilled soil of from twenty to twenty-two inches. Six men with six yoke of cattle thus finished about an acre per day, at a cost of about \$25.00. The reader will perceive that this left the soil almost in its natural position instead of reversing it as is the case in trenching. Now for the planting: I concluded that the plants, if they must have their roots deep down, would find their own way there after I had mellowed and stirred the soil; I therefore thought I would not plant deeper than ten inches. This I did, much to the disgust of my wise neighbors, who shook their heads and prophesied total failure. But, lo and behold! my vines did not fail, but grew lustily, produced well, and the vineyard thus easily prepared is now one of the most thriving, healthy, and productive

in the whole neighborhood. The yield of one-third of an acre of this vineyard I have given in your February number, and I think there will be very few, even if they prepared and manured according to Grant, Mead & Co., which have produced better results.

Now for the after treatment of my vines. The first summer I do nothing with them but keep them clean and the ground stirred up, especially in dry weather. I do not tie them up ; I do not pinch off laterals ; on the contrary, I allow them to lay on the ground, encourage the growth of laterals which makes the wood much stouter and more stocky, and in the month of July I summer layer the young plants, and generally get from five to seven good layers from each of them, which pays for all the labor the first year, and generally gives a handsome profit besides. In the fall I cut back to two or three buds, as I intend to raise two or three canes the next summer. I now have my trellis made during the winter ; I simply take rough posts, if cedar can be had that is best, if not, oak or some other durable timber ; these are made seven feet long and three inches in diameter, I put them two feet into the ground, boring holes with a post-hole auger, and nail to them three rough horizontal laths, one, eighteen inches above the ground, the second, eighteen inches above that, and the highest two feet above the second, at the top of the trellis. I make them about one inch broad and half an inch thick. Three middling stout wires stretched along at the same distances will answer just as well, are more durable, and I am inclined to think cheaper. To these I tie the vines, in the second year they will, if cut back to two or three eyes, make two to three shoots, according to their strength. One or two of these I layer again, but the strongest I had up the trellis ; and when it has grown about three feet I pinch off its top ; this will force the laterals into stronger growth ; I leave about four of them to grow unchecked, and they will

generally make very respectable canes. These, in next autumn's pruning, I shorten in as I would a peach tree, say to from four to six buds each, and they will produce the fruit the next summer. The other canes which were layered I cut back to, say two buds each, to grow young wood from the next summer, which I then treat in a similar manner, leaving one cane to grow from each spur, which is treated precisely like the one the second summer. I do not layer any more now, but grow fruit and wood alone. By this very simple process I make my vineyard pay expenses, and more, from the first year on ; I keep my vines well cultivated, for I can afford to do it as they pay me all the time, and, rest assured, they will bear as fine fruit as when raised on carefully trained arms, with a perpendicular lath each foot on the trellis. I leave it to the reader to decide which they will follow. An acre of Concord vines thus costs, say \$150 for plants, \$50 for preparation of soil and planting, \$150 for trellis, total \$350. The layers pay for the labor, plants, and trellis the first two years, and generally pay a handsome profit besides.

Your readers will now begin to see how immensely we are in advantage at the present day over those who followed grape growing formerly. Then, trenching, planting, plants, &c., cost about \$300, trellis, on Dr. Grant's plan, say \$250 per acre, \$550, with no returns the first two years, and the following years, with a return, at the then prices of wine, diseases with the Catawba and Isabella, about \$250 to \$300 per acre per year. Now, according to my plan, the vineyard pays its way from the first year on, and with a return the third and all following years, of the Concord and Norton's Virginia, of from \$1,000 to \$1,500 per year. Now we have sure crops ; then there was no security, as a few days of mildew and rot could sweep away nearly all. Now we have varieties adapted to every climate and soil, for where one will not succeed the other will.

But I am afraid I have already complete-

ly exhausted the patience of your readers by my talk about the new era in grape culture. They are facts, however, not fiction, I can prove it all. Add to this, that the best of grape lands can be had here at from \$6 to \$10 per acre, and you need not be surprised if we cannot raise vines enough to meet the

demand, and Missouri will be one of the grandest of the grape growing states. If your readers should not be entirely weary of my "grape growing made easy" they need but intimate the desire to hear more and another dose is at their service.

Hermann, Mo., Feb. 20, 1865.

WHAT RELATION DOES COLOR HOLD TO THE CONSTITUTION OF PLANTS?

BY DR. J. STAYMAN, LEAVENWORTH, KANSAS.

THAT color holds some important relation to the vegetable kingdom may be seen from its general brilliancy in healthy growth and its diminished intensity in disease, and the various changes produced upon it by cultivation, climate, season, and soil.

Color not only holds a relation to the state or condition plants are in, but to their constitution, vitality, hardiness and growth. This may be proved by observation and demonstrated by experiment. Some plants are more hardy than others of the same species (other conditions being equal). This has been ascertained to be in proportion to the amount of heat the plants absorb which is their conducting or electrical power. In other words, the hardiness, vitality and growth of plants depend upon their positive electrical force and the intensity of this state is in harmony with their color, which is in proportion to the amount of heat absorbed, or their conducting power, which has been found to be in the following order: black, brown, green, red, yellow, and white. The black representing the positive state and that which has the greatest absorbing power, and the white representing the negative state, which has the least absorbing and conducting power; and the intermediate colors holding the same relation in like proportion. This theory has been demonstrated by collecting the most hardy and tender varieties from vari-

ous places, with their known peculiarities, and growing them in close proximity to each other, under like conditions in widely different localities, noting accurately their growth, vitality, constitution, hardiness, and shade of color, and the effects produced by climate, location, soil, and the extreme and sudden variations of temperature. To illustrate this subject more fully, we have classified some of the varieties (which may be interesting to the cultivator and observer, and may prove of much value to the inexperienced in selecting varieties for health and hardiness). The following list of Apples we have fully tested by years of experience to be more hardy than the generality of those in cultivation, they having rather dark colored bark, foliage, and fruit.

SUMMER APPLES.

Carolina Red June,	Early August,
Franklin June,	Zoar Benoni,
Red Astrachan,	Early Joe,
Hoosier Red June,	Early Red,
Fourth of July,	Daniel,
Early Juneating,	Early Sweet.

FALL APPLES.

Autumn Strawberry,	St. Lawrence,
Duchess of Oldenburg,	Fameuse,
Herfordshire Red	Republican,
Streak,	King (Southern).
Fall Wine Sap,	

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WINTER APPLES.

Sweet Wine Sap,
Red Seek-no-further,
Hartford Sweeting,
Red Russet,
White Winter Pear-
main,
Willow Apple,
Sciots Beauty,
Oskaloosa,

The White Pippin and White Winter Pearmain might be thought to be exceptions to the general rule, but a close examination will fully sustain us, though they might have been classified with the following list for hardiness, yet they have the color of the former :

SUMMER APPLES.

Benoni,
Hocking,

Summer Pearmain,
Keswick Codlin.

FALL APPLES.

Lowell,
Monarch,

Fall Wine,
Northern Sweet.

WINTER APPLES.

Jonathan,
Willow Twig,
Limbertwig,
Talman's Sweet,
Yellow Bellflower,

Rawle's Jennet,
Carthouse,
Canada Red,
Fulton,
Red Bellflower.

The Yellow Bellflower, Lowell, Fulton, and Keswick Codlin appear to be exceptions to the rule, they having rather light colored fruit, yet possessing the vitality and hardiness of the others. All the above have strong electrical power, and are in a positive state compared with the following varieties :

SUMMER APPLES.

White Juneeating,
Summer Bellflower, Pa.
Early Ripe,

May Apple,
Oats Apple,
Weakley's Summer

FALL APPLES.

Lyscom,
White Spice,
Superb Sweet
Orange Apple,

Peach Pond Sweet,
Sweet Yellow But-
ter.

WINTER APPLES.

Ortley,
Belmont,
Hooker,
Shockley,
Nickajack,
Kittageskie,

Yahoola,
Willfongs,
Buckman,
Rickman,
White Vandevere,
Sweet Vandevere.

This list is deficient in absorbing and conducting power, they having light-colored bark and foliage, and rather light-colored fruit, and consequently in a negative state and are not hardy.

The same law holds good with the grape. The Clinton, Oporto, Concord, Hartford Prolific, Norton's Virginia, Franklin, Native Hamburg, Amee, and Osce, are varieties which are in a positive state, and possess great absorbing and conducting force, and consequently, are healthy and hardy, having dark foliage and fruit. While the Rebecca, Clara, Allen's Hybrid, Maxatawny, Anna, and Cuyahoga, represent the negative state and have deficient absorbing power, having light-colored fruit and foliage and are not hardy. The Cassady and Taylor's Bullit appear to be exceptions to this class, they having greater hardiness than the rest, and have a more positive character, but not equal to the first list. The Catawba, Diana, and Roger's No. 1, and all of this class having their color, are intermediate, partaking of the character of both, possessing neither the hardiness and constitution of the first nor the debility and uncertainty of the last, and will never withstand the vicissitudes of this climate. This is corroborated by the failure of the Catawba, and the uncertainty of the Diana, and the various conflicting statements of Roger's No. 1. Even the far-famed Delaware does not possess sufficient of the positive character to be certain of success when fully tested by extensive cultivation; here and in Missouri we have some misgivings upon the subject.

The same law holds good with the flowering plants ; where will we find a white rose in any of the classes equal in health, vigor and hardiness, to those of a dark color o

the same class? Where will we find a white Dahlia, Peona, or Verbena, or any flowering plant, equal in hardiness, constitution, and durability, to those of dark color?

The same law holds good in the vegetable department. Compare the Cabbage, Radish, Broccoli, Onion, Turnip, Potatoes, &c. Or compare the cereals, Corn, Wheat, Rye, and Oats. There is no law of more general application than this, that the health, vitality, and hardiness of a plant depends upon the amount of heat it absorbs, the intensity of which is in proportion to its

color, and this is in the ratio of its positive electrical force. We believe, by observation, that no permanent improvement can be made in the production of new varieties without strictly adhering to these laws of development.

There is some fruit, however, of great excellence, of rather a negative character, which is worthy of cultivation until we produce better sorts. It should be our aim to take advantage of their natural defects, by proper cultivation and training which we may be able to illustrate at some other time.

GRAPE CUTTINGS FROM HISTORY.—No. 2.

BY JOHN S. REID.

ASIA, being the birthplace of mankind, may also be called the mother of the grape-vine. Here was laid out the garden of Eden; here was horticulture first practised; here was formed many of the greatest empires of the world; here Noah built the ark, and here it rested from its long voyage on the waters; here the Tower of Babel was built, and here was the confusion of language, and the dispersion of mankind; here the Chaldean monarchy was founded, and the great city of Babylon laid out, with its hanging gardens, and its brazen gates; here was the home of the patriarchs, Abraham, Isaac and Jacob; here is the promised land, and here to, was the birthplace of the great Messiah, his life, and triumphant ascension.

No other quarter of the world has so many glorious associations clustering around it as this; and when we add, that Asia was the mother of civilization, of arts, of science, of literature, of all that ennobles man, and makes him almost equal to divinity, blame us not if we give her the honor of being the first to cherish and cultivate the grape, and apply its luscious juice to the manufacture of wine.

If we cast our eye over the map of Asia we will discover ranges of mountains, where the *Vitis Vinifera* may be seen growing in all its luxuriance on their southern slopes; but it is chiefly in the balmy region between the Indus and Oxus, the Euphrates and Persian gulfs that the vine flourishes in all the richness of its native clime. Here they not only grow the most luscious of berries, but they make the most aromatic of wines; and although the religion of Mahomed condemns the use of wine, or strong drink, as it is sometimes called, yet very few of the faithful refuse a cup of the sparkling Shiraz. We do not know the exact time when the grape was first introduced into Persia. Our opinion is, that it is a native of that country, growing spontaneous on the hill sides, and transplanted to the gardens and vineyards in the valleys, by the rich and the noble.

They are said to be among the finest in the world—suitable either for the table or the wine press. Near Shiraz, some other varieties are cultivated, from which wine of a most excellent quality is made. Some species are black, some red, some of a golden color, whilst a small white grape, almost

without seeds, which grows in the Island of Kishmish, is most esteemed for wine, and it is asserted that it was of this celebrated variety which the Schah of Persia once sent a present to the King of England. In making wine, the Persians tread the grapes in a vat, in the bottom of which are small holes made to allow the juice to escape. It is then transferred to glazed earthen jars, which are placed in a cool cellar, where fermentation takes place. At the end of one month the wine is drawn off and strained, and placed back again into the jars, until it is deemed fit for bottling; when it is put into glass flasks, holding about forty quarts, and there kept ready for sale, or use. Some of the wines of Persia are of a bright amber color, whilst others are red, not unlike our Claret or Bordeaux. The white is of a more delicate quality, rivaling our most choice Rhine. In size of bunch and berry, they are both large; some of the latter being a fair mouthful, whilst some of the bunches weigh twenty pounds. In the province of Cabool, grapes are so plentiful, that the cattle are fed with them—commanding in the market only two cents a pound.

Here also grows the Orange, the Pomegranate, the Date, Peach, Apricot, Cherry, and other choice fruits. The Lemon also is found to grow very plentifully in the mountain vales, with the Fig and Almond tree covered with fruit.

Of grapes, there are ten different kinds grown in Cabool, some of which are raised on frames, not unlike our trellises, whilst others hang from low bushes, or creep on the ground. They are watered during the month of April, and pruned in May, ripening a little earlier than our Delawares or Catawbas.

There are three kinds of wine, which claim superiority over all others. Such as the wine of Shiraz, used only by the Sovereign, or nobles; that of Yezd, a very delicate white wine; and that of Ispahan, distinguished for its delicious sweetness. Odafiz, the Persian Anacreon, sings volup-

tiously the praises of the Grape, and many of his beautiful similes and figures are taken from the vines.

Several fanciful opinions are formed in Persian history, as to the origin of wine, or who in that country was its discoverer. Ferdusi, who flourished in the 14th century, contends that one of their earliest Kings, who reigned over that kingdom, about six hundred years after the Flood, was the fortunate discoverer; and affirms, that he being a lover of grapes, and anxious to preserve some for future use, after the vintage was over, placed some of his most luscious kinds in stone jars, and put them in a vault. Afterwards, when opened, they were found so acid and disagreeable to the taste, that the King believed they had been poisoned, and wrote upon the jars, poison. Afterwards one of the ladies of the Harem, becoming unwell, and being almost distracted with pain, in order to rid herself of life, drank of the fermented juice, secretly; but strange to say, instead of it killing her, she felt much better, and continued to drink of it until the whole of the poison was drunk up.

Her recovery being well known among the ladies of the court, an enquiry as to the cause, was soon instituted, and she confessed to all that she had done; whereupon the King commanded a double portion of grapes to be again so placed in the jars, and when fermentation had properly been made, and the liquor purified, he and his whole Court drank of the new beverage; and it is still called by all the ladies of the Harem, as the "delightful poison." So much for the origin of Wine in Persia.

In our present description of the grape of Persia, we have embraced an area of country known under this name, in the days of its glory, when Persia was one of the great empires of the East; when the Oxus, the Indus, the Caucasus, and the Tigris were her borders, ranging from latitude 25° to 40° north, and which appears by history, to be one of the most fertile regions of the earth.

Our next remarks will cover Arabia Petra, and the Holy Land, in which we shall attempt to trace the history of the Vine, from the time of Abraham, to the destruction of the Temple by Titus, in the year A. D. 70, when the power of the Jews as a nation was forever destroyed, and their land became for many years, what might be termed a desolation and a barren waste.

HOME CUTTINGS.

The weather during the months of January and February has been cold, with almost continuous snow, alternating with sleet, so that these months have been rather severe for our small fruit, (except Strawberries.)

I had covered all of my finer grapevines, and think that this protection may save them from the frost. The thermometer was as low down, once, as 10° below zero, but generally steady at 2° above. I examined some of my peach buds, and they are sound. My grapes which stand in the open vineyard, are not destroyed, but several of them look sickly, will know better their true condition after the March winds have dried the earth, and the sun of April awakens the young buds from their slumber of winter, then I may again report.

Indiana, February, 1865.

FRUIT CULTURE IN SOUTH JERSEY

TEN or twenty years ago, if a cultivator of Fruit, either as an amateur or for market, had turned to the then unbroken wilds of South Jersey, to establish a fruit farm, he would have been deemed a fit subject for the mad house, and would have been told that this whole region was but sterile Sand Banks, where even mullens would wither and die; and even now, when Yankee enterprise has brought the wilderness to blossom like the rose, with thousands of fruit farms, strangers attracted thitherward, are told by intelligent Philadelphians and New Yorkers, that "*nothing will grow in Jersey,*" forgetting that a large proportion of the finest fruit found in both New York and Philadelphia markets, is grown in Jersey sands.

Four years experience and observation, has convinced me that this section of New Jersey, (say from Camden to Atlantic City, on the line of the Camden and Atlantic Railroad,) is one of the very best locations for growing fruits of all kinds in the United States. Many thousands of acres of land can be purchased at such rates as to make it desirable for all, whether rich or poor, to locate here. The nearness

to the great markets—a sandy, loamy soil, with a strong clay sub-soil, free from stones or waste places, slightly rolling, sufficient for drainage, with abundance of marl and muck beds, to place the whole section of country in the highest state of fertility. The soil is warm and quick, and at this point, Hammonton, thirty miles south-east from Philadelphia, we are several degrees warmer than at Philadelphia. The winters are short and open—snow seldom falling but a few inches, and remaining on the ground but a few days. The lowest that the thermometer has ranged in four years, has been at zero. We have had more cold weather the winter just passed, than any in the recollection of the oldest inhabitants. Fruit buds are seldom killed, and the ever-bearing mulberry of Downing, does not have to be covered.

Much attention has been paid to the culture of small fruits, and many hundred acres of Strawberries and Blackberries have been planted. Of Strawberries, the varieties which have mostly been cultivated, are Wilson's Albany, Triumph de Gand, May Queen and Boston Pine. Now, the Agriculturist, Brooklyn Scarlet, Mon-

itor and Russell's Prolific are being planted. I think the Wilson has less acidity with us than further north. The average amount received from the strawberry crop is \$200 per acre—picking, with us, for market commences about 1st of June. The blackberry seems to thrive most luxuriantly with us, and the yield to the acre is enormous. The Lawton is most generally cultivated, either for wine or market, although some prefer the Dorchester as a market berry, as it is a week to ten days earlier than the Lawton. The average receipts for blackberries last season, was \$250 per acre where the fruit was marketed, and when made into wine, the product was at the rate of \$600 per acre.

A sample of Blackberry Wine, recently tested before the Farmer's Club of New York City, made here, was pronounced *very fine*. It is claimed that both fruit and wine, grown and made here, is superior to any other section of the country.

Considerable attention has been paid to the culture of the Grape, all through this section, and we claim that ten years hence, we shall be one of the greatest wine producing districts in the United States.

On the coast, the Isabella and Catawba are cultivated largely, with general success—are said to be free from rot or mildew, and hold their foliage up to the close of the season. At Egg Harbor City, a German settlement, the Isabella, Catawba and Norton's Virginia are being extensively cultivated. I am informed, that a wealthy association of intelligent Germans, have purchased some twenty thousand acres of land near us, for the culture of the Grape, and Wine making. With us the Isabella, Catawba, Concord, Hartford Prolific, Delaware, Diana, and Clinton have been planted. The Concord is being more extensively cultivated with us than any other variety.

The Delaware has proved with me a strong and vigorous grower, and all that is claimed for it, *the best native grape in America*. The Delaware has mildewed but slightly with me. Last season it began to color on the 1st of August, and was fully ripe by the 25th. The Diana has proved with me next to the Delaware; bunches solid and compact—a strong grower, and free from mildew or rot. The Union Village promises well, and I hope will prove well adapted to our climate. The Anna mildews very badly with me, I not having been able to fruit it. The Concord with us is a very vigorous grower, and a great bearer, but some seasons it has rotted badly. The Hartford Prolific and Clinton do well with us. My vines were struck with mildew badly, 1st of July, 1863, and but slightly in 1864. I discovered the mildew on my young vines last season, on 15th of July. If the experiments of "Horticola" prove a success, he will have conferred a lasting benefit upon the vine growers of the United States. We have not been troubled much with the rose bug, or thrip, but the curculio paid us a visit last season. The Peach grows with us finely, and if we can get rid of the borer, would prove one of our best paying crops. Standard and Dwarf Apples and Pears do well with us, and intelligent fruit growers from all sections of the country say, that they never saw more thrifty or healthy young trees than what they have seen all through this section.

The winters are so short and mild, that any of the above vines do not have to be covered. Ploughing can be done generally every month in the year, and in such a climate with the right kind of soil, and enlightened culture, this whole section of our State is destined to be *the fruit garden of the United States.*

S. B. N.

Vine Cottage, Hammonton, N.J., April, 1865.

CULTURE OF THE PINEAPPLE.

BY GEO. N. STACK, GARDENER TO JOHN BRIDGEFORD, ESQ., ALBANY, N. Y.

VERY few places seem to have the Pineapple. Why is it so? Their culture is as simple as growing strawberries. I think the answer is simply this: expense and ignorance. The former caused in the labor, burning of fuel, and the laying out of money without receiving the benefit of such, and the latter, in lack of judgment or experience on the part of the gardener. There are some places in which no large amount of expense is incurred, and a good supply of fruit obtained; and others on the contrary, cause such extravagant expense that it is enough to frighten any person out of the thought of growing them. Hoping that I will be able to throw some light on the subject to those who are not experienced in their culture, I offer the following suggestions, fully confident that if well attended to they will give general satisfaction:

To grow the pineapple to its greatest perfection, it requires a house suitable for that purpose, such a house should be constructed so as to admit all the light possible to the plants. A three-quarter span 60 feet long, 14 feet wide, (with a pit in the centre 8 feet wide, filled with tan to the depth of 16 inches, and an evaporating tank underneath, having a gradual slope with the roof not more than 4 feet from the glass,) and partitioned off into two departments of 30 feet each, will form a very commodious house; admit plenty of light, easily heated, and each department will hold from 60 to 70 large plants.

SOIL.

Five parts good turfy loam chopped into pieces about the size of a walnut, with one part well decomposed leaf mould, and one part sand thoroughly mixed, forms a compost well suited to the growth of the pineapple, and in which its roots will travel very fast, regardless of danger as far as the soil is concerned.

KINDS TO GROW.

The varieties of the pineapple are numerous, but few however merit general cultivation. The following I recommend as deserving of all care and expense that may be bestowed upon them: Broad leaved Queen, Black Jamaica, New-Providence and Antiguas. There are others of very good quality, but the above named varieties are all first rate.

PROPAGATION.

The pineapple is propagated from suckers, gills and crowns; some kinds are generally backward in producing suckers, such as Providence plants; when such is the case plants should be turned out of the pots, (as soon as done fruiting of course) and a few of their lower leaves cut off, the rest, cut in rather close, and about three inches of the old stump cut off and potted in 32 sized pots, and treated as suckers, when they will produce two or three good suckers. By this method all shy breeding sorts may be increased.

CULTURE.

Having got all suckers, gills, or crowns that are wanted, place them in a convenient place in the pine house under the full exposure of the sun, for about a week, after which pare the stump and cut away all the lower leaves that are necessary, so as to fasten the plants in the pots, and pot them in pots according to their sizes, the largest in 32 sized pots, and the smaller into smaller pots. When potted plunge them in the tan bed up to the rim of the pots, with bottom heat of 80°, syringe over head about twice a week. As soon as the sun is going off the house is the best time for that purpose. Do not give water at the roots until they have reached the sides of the pots, and in future as they are in need of it.

As the season declines, lower the tem-

perature. The temperature for winter should be between 55° and 60° by night, and should not exceed 80° by day. In the latter part of March or early in April, turn the plants out of the pots, and cut away about two-thirds of their roots; pot in the same sized pots and plunge back in their former position, keeping them rather close, but not allowing the temperature to exceed 90° for a few days, until they have again taken root hold, when they should be watered more freely, the temperature gradually increasing. I have known the temperature to rise to one hundred and fourteen, the thermometer covered, without the slightest injury to the foliage. As the season advances, sprinkle the plants over head more frequently; in very hot weather every other day. About June they should be potted into 16 size pots, balls entire. This time the tan will need cleaning, and a fresh supply added to it. This done, the plants should again be plunged. About August give them their final shift in 12 sized pots, and when potted the soil should at the very least be one inch below the

surface of the pots. The plants having received their last shift should show fruit in September. As the season declines, the temperature should be lowered as previously directed, and in bright sunny days, syringe about twice a week, to take the mouldiness of the fruit, which is caused from the humidity of the atmosphere. About February, the fruit will begin to color, when the temperature should be raised to 65° and 70° at night, and may reach 100° by day, without injury, and in April, the fruit will be fit to cut.

Growing the pineapple in beds of soil is not much practiced, but by this mode, fruit can be obtained almost every month in the year, on account of the old plants producing suckers in every stage of their growth. The objections to this mode is, that the fruit is not so large as when grown in pots. When this mode is resorted to the pots should be filled with soil, which need not be more than one foot in depth, and the plants planted 16 inches apart in rows arranged alternately.

FERNS.—No. 1.

In traversing the country during the months of Summer and Autumn, the eye of the traveler is irresistibly attracted by the extreme beauty of a class of plants which adorn the road side, banks and rocks, fringing the sides of the rivulet with their graceful drooping foliage, or clothing stone-walls, bridges and rocks, with a living verdure of rare beauty. Along the broad margin of the mountain stream, or in the fair green glades of the pleasant woods, these magnificent groups of tufted Ferns may be seen, whose finely cut leaves, of a most vivid green, rising sometimes three or four feet in height, might form a coronal for a forest monarch, glorious in form as in hue. Perhaps, if the ground happens to be marshy, close by these splendid tufts of Fern, the wanderer may

find a regal plant indeed; the *Osmunda regalis*, throwing up its feathery foliage in clusters of branching leaves, from six to ten feet high, which spring straight from the root, dividing as they ascend, into what look like branches, but are in fact divisions of the leaf, called *pinnæ*, which droop with a graceful curve earthward. Some of these pinnæ are terminated by a sort of fingered point of a brownish hue, and of a singular and beautiful appearance.

"What is it?" ask the uninformed who sees it for the first time. "Can it be the 'egg' which some insect has deposited there? Can it be blossom or seed?" And the like questions he will ask when he gathers two or three leaves, or *froads* as they are termed, of any other of the various kinds of Ferns

that he meets with in his woodland or mountain ramble, and finds them closely beset on the back with grey or brown spots symmetrically arranged; some down the mid-rib of the leaves, others around the margin of each leaflet; while again on others a mass of this brown substance extends over the whole surface of the leaf.

Perhaps a few very simple rules may aid those who have been delighted with the beauty of the Ferns which adorn their pathway, and as yet are ignorant of the structure of this interesting tribe of plants, to discriminate between their various species, and to view them with other interest than that with which the mere superficial observer looks at them.

"How may we know a Fern from any other plant?" is a question more frequently asked than well answered. It is sometimes replied, and very naturally, if not very correctly, that ferns are plants with very large leaves that grow in moist places. It is true that there are some large leaves which grow in moist places, which are ferns. The great Shield Fern (*Lastrea Felix mas*), the Brachen (*Pteris aquilina*), and some others may be mentioned. But there are also many large leaves which are not ferns, and moreover there are very many ferns which neither grow in moist places, nor have large leaves; for some are so diminutive that their organs and fructification can only be determined by the aid of a microscope, the whole plant often not being an inch long. Ferns of this description are usually found on walls and rocks, some growing out of the driest mortar in the chinks of old walls, and others beneath the dash of the waterfall, on crags, and inaccessible rocks and cliffs.

Loudon gives two distinctions which prevail between the Fern and plants of other orders. The first is "found in the situation of what is called their Sori, or patches of reproductive organs, which are in all cases inverted on the back surface of the leaf or frond, sometimes appearing only in the form of little spots, sometimes covering the

whole of the under side of the frond, and sometimes contracting the substance of the frond, so as to give it the appearance of a single mass of fructification." The other distinction is, that "the fronds are always rolled up in a circular manner when they are first developed.

Most observers will have noticed this singular appearance of the young leaves of the ferns in the spring, especially that of the great Shield Fern, whose brown hairy stem when thus beginning to appear, looks like a large brown caterpillar rolled up, and as it develops, assumes the form of a crosier, or shepherd's crook.

The whole tribe of ferns—natural order, Felices—is divided into two parts. The first includes those whose thecae, or little masses of seed vessels, are provided with an annular ring, by the operation of which the caps containing the seeds are torn asunder and the seeds dispersed: these are called *Annulata*. The second includes those which have no such provision, and these are called *Ecaudata*. The "Flowering Fern," (*Osmunda regalis*) the "Moonwort," and the "Adder's Tongue" belong to this latter class, while nearly all the other species are to be included in the former. This class, the *Annulata*, is subdivided into two sections. In the one the thecae are attached in masses to the back of the frond; in the other they are placed in a receptacle situated on the margin of the frond. Each of these two sections contains within itself several families, determined by different circumstances connected with the placing, form, and other variations of the thecae and their coverings.

Now let us see what are the different parts of a Fern. Each has, first, a root, secondly, a part which connects that root with the fronds, and out of which they spring, which is called the Rhizoma, and is that which in the tree fern forms the trunk; and thirdly, the fronds or leaves. The frond consists of a stem extending from the rhizoma, quite to the apex of the frond, and this is called the Rachis. On either side of the main stem, the leaflets, or other ar-

rangements of the foliage are disposed. In some ferns the frond is pinnatifid, that is, the little leaflets are not quite divided from each other. Others are pinnate, that is, having the leaflets quite separate. So variously are the leaflets of the different species of the fern cut and arranged, that it would take too much space to enumerate them.

But though many species of fern may be discriminated at first sight by the form of the leaf, the growth, &c., it is by the venation, and the arrangement of the fructification, that their families and species can alone be determined. The seeds of ferns are not preceded by any visible flower. They are generally produced in the back of the frond in capsules, called thecae, which are clustered together in little masses situated on the veins at the divisions of the fronds, or on their margin.

This arrangement of the fructification on the back of the frond, seems universal in all the families of the Annulatae. A few words on the fructification of the other division, the Exannulatae, and our review of general characteristics will be ended.

The reader will remember, that the distinction between the two divisions is, that the Annulatae are provided with an elastic marginal ring, to assist in dispersing the seeds, and that the Exannulatae are devoid of this appendage. Plants of this latter division have their thecae in a spike, either branched or clubbed, and attached in some species, to a separate frond; in others terminating the leafy frond. Of such arrangement as the last named, is that noble plant, the Flowering Fern.

"The apex of the frond of the osmunda,"—says Newman—"is composed of a complete cluster of spikes; these spikes correspond to *pinnulae*, of which only the mid-vein and a slight marginal ring is present, and to each of the lateral veins, is attached a nearly spherical mass of thecae; these spherical masses entirely supersede any leafy portion in pinnae so converted. Frequent instances, however, exhibit the base of a pinnula in a leafy or barren, whilst the apex is

in a fertile state." It is not, however, every leaf that thus terminates. Some are barren fronds, and they preserve their leafy appearance to the summit of the frond. Of the first division, are the Moonwort and the Adder's Tongue. In the former, a little branched spike of fruit is joined to a pinnate frond, these two members forming the whole plant, which is not usually more than four or six inches in height. The latter consists of a straight spike of fruit issuing from the interior surface of the frond at its base, usually longer than the leafy part, and bearing the thecae in a double longitudinal row.

The power which ferns possess of multiplying themselves is almost incredible. The Hart's Tongue, which is by no means a large plant, or possessed of a peculiarly high power of reproduction, bears on each leaf—according to Lindley—about Eighty Sori. Each of these consists of from three thousand to six thousand thecae, each theca containing about fifty spores; so that, by a moderate calculation, a single leaf of the plant may produce not less than eighteen millions of young plants!

We have endeavored to make this sketch of the general and leading characteristics of the Fern tribe as simple as perspicuity would allow. Still we are aware that to many who have no previous knowledge on this very attractive subject, much that we have said may seem difficult to understand, while we are also aware that to those who have made this interesting branch of the vegetable creation their study, it will be evident that we have given but a rudimentary and imperfect account of the structure of the tribe, and left out much which, but for the fear of overloading and confusing the subject, we should have said. We hope, however, that these few elementary hints may help any one who reads them with attention, to know a fern when they see it.

In the northern parts of the world, ferns are green, leafy productions, which die down to the ground every year, some yielding sooner than others to the influence of

the seasons, but all being renewed from the base of the plant annually. In tropical countries, however, this is not the case. They acquire real trunks, resembling palms, and often rise to the height of forty or fifty feet, without a branch or leaf. Then they throw out masses of most graceful foliage, which wave like feathers in the air, their leaflets being of the most exquisite form and regularity of arrangement. Many of the tree ferns are of great interest, both on account of their beauty, and also of peculiarities in their structure. One of them, the *Aspidium Baromez*, has formed the ground work for many fables, and ignorant people have been induced to believe that, in the deserts of Scythia, creatures, half animal, half plant, have been produced. This deception has been contrived by cutting off

all but a small portion of the stem of a woolly-stalked species, and turning it upside down, when it presents much the appearance of a small animal. It has been called the "Scythian Lamb," and Loudon tells us that the belief in its animal nature, has been increased by the circumstance that the color of the juice of this plant is of a rich bloody hue, which soon becomes thick by exposure to the air.

In the carboniferous strata are found fossil ferns of arborescent kinds, such as do not now exist, and of immense magnitude, some of them appearing to have reached the height of more than eighty feet. The fructification of these extinct species, as well as of the arborescent ferns now existing, is arranged on the same principle as that of our smaller species.

RAISING SEEDLINGS.

BY J. M. MERRICK, JR., WALPOLE, MASS.

ALTHOUGH I had been affected for two or three years with that incurable epidemic, the grape fever, it so happened that I never saw the *Horticulturist* till last January. I was delighted with my new acquisition, found myself in congenial society, and subscribed for the magazine at once. I was especially pleased with Mr. Fuller's remarks about raising vines from seed, for I could sympathize with him when he spoke of the interest with which the little spindling plants are watched, the care with which they are tied up and trained, and the cheerfulness with which a thousand failures are borne, for the sake of one partial success. For the last three years I have been planting seed and raising vines to an extent which has caused my sanity to be doubted by my friends, who regard the grape mania as belonging to the same class of delusions as the *morus multicaulis* humbug, or the famous Tulipomania in Holland. They prophecy that as soon as the crisis is passed the whole thing will cease to interest any-

body, and will vanish like a dream from men's minds and thoughts. I think differently, and therefore I am persecuted. Every extra hot-bed I set up is looked upon with suspicion; the purchase of a few hundred thumb-pots is a wild extravagance; and a little natural enthusiasm in favor of the *Iona* and *Agriculturist*, is regarded as the last flicker of expiring reason. However, I keep on, and have got quite a stock of seedling vines, from which I promise myself a great deal of comfort and satisfaction quite willing to be laughed at, and to leave unanswered ironical inquiries as to the probable epoch when the "Great American seedling" will appear.

My experience, as regards the time required for the germination of grape seeds, has already been communicated to the *Country Gentleman*, but I may venture to insert some facts here, as I should be very glad to compare notes with some one else who has made the matter a specialty. I never have succeeded in making an Isabel-

Ia or a Rebecca seed germinate, although I have planted large quantities. Catawba seed comes up sparingly the first year, and here and there a solitary plant the second. Delaware seed comes up reluctantly, but generally makes good plants the first year. I have planted Concord seed twice, and with very different results; first, I planted whole grapes in October, and not one seed in fifty came up. Last year I planted, in April, a vast quantity of the naked seed, and in June every seed, I should think, came up. Native grape seed from wild vines comes up pretty well the first and second year. In my experiments, perhaps in all, half the seed (native) germinated. Seed from Rogers 19 comes up in rows with about as much certainty and regularity as peas or beans. This fact seems to be derived from the great vitality and energy (so to speak) that the number 19 in common with others of the same list, possesses, and seems to me to form one link in the chain of evidence which shows these vines to be true hybrids. Will some reader of the *HORTICULTURIST* give us his experience in raising vines, so far as the length of time required for the seed to germinate is concerned? and will he state also what means he used, if any, to hasten the seeds in coming up? Last summer, owing to the dry weather, was very unfavorable for raising young plants. I lost several hundred Concord seedlings; and those I did save were painfully transplanted one by one into three inch pots, put under glass and watered every day to give them strength enough to live over winter. The results that have thus far been obtained by raising seedlings after the method of Van Mons, and more especially by hybridising, have excelled and surpassed all that could have been anticipated or even hoped before-hand, and it seems to me to be almost the duty of every lover of good fruit, to plant at least a few seeds, and contribute his mite towards the general improvement.

The trouble, when a new variety is obtained, seems to be that the old proverb

holds true, about everybody's geese being swans. Even if a man digs up a wild vine in the woods, and plants it in his garden he is apt to consider it of first quality, because he dug it up, and if you were to give him a vine growing six hundred feet in a season, and bearing grapes as large as the Black Hamburg, and as good as the Delaware, he would fail to see that it was better than his.

The ingenious Mr. Samuel Weller, of facetious and immortal memory, remarks that when we say a man has taken to building houses, it is a delicate way of saying he is insane. Some people, now, have a similar saying, except that they use the words "planting grapes" instead of "building houses," but in the March *HORTICULTURIST* I came across a most refreshing sentence, viz: "Every enthusiast in fruit culture deserves a vote of thanks from the whole people;" and I immediately passed a vote of thanks to myself, and determined to write to the *HORTICULTURIST* to say that I had done so.

I am not familiar with the newest varieties of grapes to decide whether our most brilliant triumphs heretofore have been gained by planting after the method of Van Mons, or by hybridization; but, however the matter now stands, I am fully convinced that the perfect grape, when it does come, will be a hybrid artificially produced by some painstaking man who settled in his mind what he would have before he planted a seed.

I allude to hybrids here because I wish to ask some experienced horticulturist to tell us, through the columns of this journal what pairs of grapes and of strawberries he would select for crossing with each other. I desire his views especially in regard to strawberries.

Perhaps Mr. Parkman, whose paper in the April number helps to make that the best thus far this year, (I do not say make it perfect, for the May number with an article is coming) could answer this question in a satisfactory manner.

Impatient people sometimes raise the objection against planting seedlings, that "it will take so long for them to come into bearing." This argument reminds me too strongly of my youthful days, when my father gave me a little garden of my own, wherein I used to plant beans one day and dig them up the next, to see what progress they were making, and I tell the objector

he forgets that if he sows seed now in only three years he will have vines in bearing, and each year thereafter he will have a fresh crop of plants, (provided he has planted regularly every season) each one of which will develop new points of interest among which will be (unless somebody else gets it first) the Great American Seedling.

GROWING CRANBERRIES.

We have heard much and printed much in the *Telegraph*, relative to the growing of cranberries. An effort has been made to show that cranberries can be profitably grown on uplands—that is, without the assistance of water, swamps, or overflowing; and though several instances were given of success, we still hesitate to believe that they could be cultivated on such land with sufficient profit to make it an object. But where there is water to overflow at proper times, or even the ground be naturally moist throughout the season, there is little doubt but that the cranberry can be made one of the most profitable crops grown. Thousands of acres in every State of the Union, now lying worse than idle, could be transformed into the cultivation of this fruit, which would add more to the common exchequer of the farmer, than four times the amount of his best ground, in the ordinary crops. The following instance of the reclamation of a worthless swamp, in Franklin, Massachusetts, will open the eyes of some of our readers:

Something like ten years since, this swamp was covered over with a growth of alders, dogwood, white maples and other swamp shrubs, which covered the ground; they were cleared off, and a ditch cut through the swamp for the brook, which before ran through a very crooked channel. Ditches were then opened from the uplands on each side, which are gravelly and sandy, leading into the main ditch. A dam was constructed across the swamp, which serves

the purpose of flowing it and also that of a road to pass across it. In the winter the swamp was usually flooded, and gravel, this being better than sand, was drawn on to the ice and spread.—Afterwards it was planted to cranberry cuttings, in drills about eighteen inches apart, this, from experience, proving to be a suitable distance apart. How many coverings of gravel have been put on, was not learned; but several, judging from the excavations whence removed.

About twelve or fourteen acres of this swamp have been planted; and so favorably is it situated, that it can be covered with water in a little more than an hour's time. The brook is of such capacity, with the aid of a reservoir above the cultivated ground that the plants can be protected from frost at any season when there is any danger.

The crop of the past season was about 1,100 barrels of very nice fruit, and of remarkable size. I brought away a couple of berries that measured nearly three inches in circumference. The crop was all picked by hand, at a cost of nearly \$2,000. At one time two hundred persons might have been seen in that swamp picking cranberries. It was a lively scene. After they were gathered, they were taken to the house, where they were sorted, that is to say, the soft berries, after winnowing them, were culled out by women and girls, preparatory to barreling.

The fruit has generally been sold so far as it is marketed, at the current price, though some of it was sold for \$15 a barrel. Call

the average price \$10 a barrel, and 1,100 will bring the snug little sum of \$11,000. This beats tobacco-raising out of sight, as the saying is.

One of the peculiar advantages possessed by this over most of swamp lands, is, the facility with which it can be flowed at all seasons of the year, thus guarding the growing crop from both late spring frosts and

early autumn frosts; and besides, gives the power to destroy insects that sometimes infest the vines. Swamp lands that can be quickly flowed and quickly drained, cannot be used more profitably than by growing cranberries, as it would seem by this experience. It is also easily graveled in the winter by flowing it.—*Germantown Telegraph.*

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. Woodward, 37 Park Row, New York.

WOODWARD'S GRAPERIES AND HORTICULTURAL BUILDINGS will be ready early in May, about as soon as this May number is in the hands of our readers. This work is a practical and comprehensive one, discarding all theories and exploded notions. It aims to give in a concise manner, all the needed information on all classes of Horticultural Buildings, from the hot-bed to the most elaborate structure, and is the result of a long professional practice in the construction and personal management of such buildings.

—
NEWBURGH BAY HORTICULTURAL SOCIETY.—The summer exhibition of this society will take place at Newburgh, N. Y., on the 15th and 16th June, 1865, and the Fifth Annual Exhibition on the 27th, 28th and 29th days of September, 1865.

FREE MISSOURI has now organized a State Board of Agriculture, with the following officers:

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MARCH 15, 1865.

Stout's P. O., Adams Co., Ohio.

The soil here is a dark rich sandy loam, particularly adapted to the growth of fruit and grapes. Peaches frequently weigh from 12 to 16 oz., and there are Peach trees here that have borne peaches for 30 years. The elevation of our hill tops above the level of the river is over 700 feet. Let me give you for the information of your readers, an improvement in raising Tomatoes: in place of allowing the tomato to branch as they usually do, tie them up to stakes, keeping all the branches pinched off. In this way they will produce more and better tomatoes than by any other mode of cultivation.

Yours truly,

DR. IRA A. McCORMELL.

TOLEDO, OHIO, April 9th, 1865.

Messrs. WOODWARD—I have some twelve acres of Grapes coming into bearing the ensuing summer. I am somewhat in doubt as to what procedure would net me the most: selling them in boxes, or making into wine. I have ten acres planted with Catawba, and two with Delaware. My vineyard is situated on Put-in-Bay Island, Lake Erie; we think this and the adjoining Islands the only places where in this latitude the Catawba becomes *perfectly* ripe. I was much amused at the *net* results of the product of Delaware and other varieties in the March number of the "HORTICULTURIST," especially the 1-3 acre producing \$3,000 worth of plants, at a cost of only twenty-two dollars. If it did not cost them more than that amount in cash, the labor was expended somehow, and I know that with present prices of labor I could not raise the same number of layers for the sum named. Should you ever be in want of estimates of expenses of raising grapes, as we find it on the Island, I will give the figures, and I trust those that will not lie.

Yours truly,

L. L. LUNCGREN, M. D.

We should be glad to have your figures.—Era.

LA CRESCENT, Minn., Apr. 4th, 1865.

Messrs. WOODWARD,

I should be pleased to have you invite the author of "Notes, &c. on fruit culture in the Western States" to favor us with the article which he has promised if desired, pointing out some of the most desirable localities for fruit growing at the West, and the varieties that promise best returns; also, the best soil, aspect, &c. Many people in this State profess to believe that fruit growing will prove a failure, but I do not believe it. I am starting an orchard on a south-eastern exposure; started with a few trees four or five years since, and added a few every Spring, and am happy

to state, that they promise success. Therefore, any suggestions from western fruit growers add to the interest I take in your paper.

Yours respectfully,

JOHN S. HARRIS.

MESSRS. GEO. E. & F. W. WOODWARD:—The remarks of your correspondent, in Feb'y number, concerning the Jonathan Apple reminds me that my attention was lately called to this apple, on a recent visit to Michigan, by Hon. Mr. Sprague, of Kalamazoo. He is an old resident of Michigan, and has paid considerable attention to fruit culture. He speaks in the highest terms of the Jonathan, and recommends it very highly as a hardy tree, and one peculiarly adapted to western demands. The specimens he showed me were handsome to the eye, and excellent to the taste.

Madison, Wis.

W. A. P. M.

WEALTH AND SPLENDOR OF NEW YORK.—If the Californian wishes to realize the splendor of New York, let him start for the Central Park, from the huge palace of white marble on Madison Square, and mingling with the luxurious equipages, which are moving to and fro, drive up the Fifth Avenue. His coachman will have to wait a moment until that Cinderella-like pony phæton, with its occupants in ball-like costumes, passes, and that silver-embossed carriage with its coachman and footman in imperial green liveries turns the corner. On either side of him and as far as he can see down the streets which run perpendicular to the avenue, he will be astonished at the elegance of the mansions which house the merchant princes of the American Metropolis. Entering the park his eyes are no less charmed at the beauty of the design than startled at the outlines of the magnificent bridges over which he drives. Arriving at the splendid terrace which would be a feature in a royal palace, he descends

from his carriage and mingles with the crowd of gaily dressed people who are promenading to the sound of operatic music performed by an orchestra of sixty selected musicians, who are seated on a temple that is a miracle of painting and gilding. Descending the broad steps of the terrace, hardly observing the exquisite carvings of the stone balustrade, he stands at last by the fountain underneath the embroidered scarlet silken gonfalons, suspended on poles, whose golden ornaments dazzle the eye. He walks to the beautiful stone steps of the landing, on the borders of the lake, and beckoning to one of the fancifully attired boatmen is soon the sole occupant, if he chooses, of a brightly-painted shell that is delicate enough to carry Venus and Cupid. Reclining on the silver cushions he floats on water that is as limpid as crystal and watches the brilliant panorama before him, or plays with the graceful swans, who are tame enough to bear his caresses while his senses are scattered with a luxurious repose by the soft strains of the music on the one side and by the murmurs of a lovely little cascade on the other. If he is a New Yorker, by birth, and returns after an absence of ten or twelve years, he will find it difficult to realize that this scene of Fairy-like enchantment was the odious quagmire, whose lots even his enthusiastic predictions of future value could not tempt even a Dutch grocer to buy. As he floats around, in one place, he will say with Tennyson—

"There lies a vale in Ida, lovelier
Than all the vales of Ionia hills.
The swimming vapor floats athwart the glen,
Puts forth an arm and creeps from pine to pine,
And loiters slowly drawn. On either hand
The lawns and meadow-ledges midway down
Hang rich in flowers, and far below them roars
The long brook fallen through the cloven ravine."

If he wishes to enjoy a crowning excitement let him float upon the lake, until the moon lights up the scene, and he will return to his hotel and wonder if he has been spending an afternoon and evening in New York.—*N. Y. Cor. California Farmer.*

BOOKS, &c. RECEIVED.

OUR FARM OF TWO ACRES, by Miss Harriet Martineau. This little book which first appeared in the columns of "Once a Week," has just been published by Bunce & Huntington, of this city, price 20 cents, paper covers. A personal narrative of successful cultivation of small tracts of land in the vicinity of our large cities, is sure to find plenty of readers. More on this subject is always desirable.

THE PREPARATION AND MOUNTING OF MICROSCOPIC OBJECTS, by Thomas Davies, New York. Wm. Wood & Co., publishers, \$1.50. A book much wanted, and which describes with care the apparatus, objects and mode of mounting them, covering the whole subject. Those interested in such matters will find this work a valuable aid.

MEDICAL STUDENT'S WEST POCKET LEXICON, just published by Wm. Wood & Co. A great deal of valuable matter in a small compass.

SECOND ANNUAL REPORT of the proceedings of the West Jersey Fruit Growers' Association, 1864 and 1865, containing a report on all fruits grown in West Jersey, by Nathan Leeds of Cinnaminson, chairman of General Fruit Committee. An address by Hon. Wm. Parry, President of the association, and an interesting article on "atmospheric humidity as a protector from cold," by James S. Lippincott, Esq., of Haddonfield.

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Journal of Rural Art
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The July Number will contain the Fourth Paper from the author of "My Farm at Edgewood," after which the "Edgewood Articles" will appear monthly throughout the volume.

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THE
HORTICULTURIST.

VOL. XX.....JUNE, 1865.....NO. CCXXVIII.

CURIOSITIES OF HORTICULTURE.

BY THE AUTHOR OF "TEN ACRES ENOUGH."

It is one of the curious facts observable by practical horticulturists, that while a prodigious increase has been given to the production of every description of fruit, the price for whatever may be brought to market has been steadily advancing. Consumers have undoubtedly had some suspicion of the same remarkable fact. It would seem that the demand must be increasing faster than the supply, or these advancing prices could not be maintained. It would probably be difficult to account with precision for this state of things; but the fact is evident to all producers, that the more freely the great public is supplied with fruit the more it will consume.

There is reason why this should be the case with every luxury that comes before the public. Thirty years ago, the now daily summer indulgence in ice cream was almost unknown. It was manufactured as a rarity in only one or two aristocratic confectioneries in each of the great cities, where it was retailed in small wine glasses, at

twenty-five cents. One had to walk many blocks to reach the places where it was sold. It was rarely seen at even weddings, because of its absurd price; and for years continued to be a sort of sealed luxury, in which the masses could not indulge, because they were unable to obtain even a taste of it.

But time has long since bravely changed the case. As the secret of its manufacture became known, so the imported luxury was spread before the public at a thousand new depositories. Their taste became educated to understand and appreciate it. The consumption became enormous, though cheaper processes were invented for producing it, until now, at less than half the price it yields a better profit to the maker than before. There are great farms around Philadelphia, which formerly produced from one to three hundred pounds of butter weekly, which for years past have not sent a single ounce to market. All the milk they yielded has been converted into ice cream. Invention

came in to stimulate indulgence in the new luxury. Numberless machines were patented for producing it so readily and cheaply that in multitudes of private families the ice cream freezer has become as indispensable as the coffee mill.

This process of educating the public taste for superior fruits has also been going on for many years, producing, in some respects, equivalent results. The two most prominent ones are a vast production, and an increase of price. The steam engine has been applied to the manufacture of ice cream, and ingenious restaurateurs have adulterated the product by the infusion of cheap ingredients, by which the public appetite is so far satisfied as to keep up the consumption. But no engine can multiply or ripen the peach or pear crop, or add a single bushel to the product of an acre of strawberries. It is to nature alone that we are indebted for the flavor of all these exquisite fruits. Human skill and assiduity may increase the quantity, and to accomplish this is the peculiar province of horticulture. But demand evidently keeps pace with production. It must even exceed it, or prices would not so steadily rise. Twenty years ago strawberries could be purchased at eight cents a quart. Few persons produced them, perhaps no one cultivator had as much as an acre devoted to them. The masses never saw or tasted them. But in twenty years horticulture, all the world over, has made gigantic progress toward ranking among the exact sciences. Its devotees have discovered and introduced multitudes of new and valuable fruits, while other enthusiasts have originated new grapes, new raspberries, new strawberries. The two latter have been distinguished for their immense productivity. This prime recommendation to the strawberry has placed it within reach of the masses, and they, ever ready to appreciate a valuable fruit when made acceptable to them, have so enlarged the demand that he who now can boast of only one acre, is considered as among the moderate class of cultivators. It is an extraordinary incident

of this condition of things that prices should continue to advance. But the fact is undeniable that strawberries now sell for three to four times as much as they did twenty years ago. It may be evidence of increasing wealth among our people, or only one phase of the national extravagance. But it holds out to the careful horticulturist the surest promise of abundant pecuniary reward.

Should these horticultural reminiscences be extended, the same general result will be recognized,—a rise in prices. Take the pear as another illustration. Until within a few years one never heard of them selling at a shilling to twenty-five cents each.—What is most remarkable of all is that these prices must be given by the masses, not exclusively by the wealthy, as this fruit thus labelled and exposed for sale at the street corners, is there purchased by the way-faring crowd. Grapes also, come in as sharers in this extraordinary harvest. A dollar a pound is the common price for unlimited quantities of the choicest varieties.

There is a corollary from these facts which may be of value to many. I omit all urgency touching the planting of new vineyards and orchards, and will refer only to the recuperation of such as have been many years established. There must be a mine of wealth in some of these of which their neglectful owners do not dream. I was last week upon a farm, situated in the best fruit-growing region in New Jersey, which, thirty years ago, had been used as a nursery. The nurseryman had long since retired from business, having made a comfortable fortune, and the farm had passed through a succession of owners, only one of whom appeared to have left behind him any evidence of horticultural taste. He had built an extensive cold grapery, and stocked it with the choicest foreign vines, whose products never fail to command the highest prices. But like all his predecessors, he in turn had sold and moved away, giving place to one who considered the raising of sweet corn and pickles the chief end

of man. The grapery, in his view, was an incumbrance, but as it would cost money to remove it, it was permitted to stand. The walls were falling to pieces, the sashes had here and there slipped down from their proper places, while hundreds of the lights were broken, and the interior was used as a chicken roost. But there stood the grape-vines, bursting into bloom, and giving evidence, in the shape of numberless blossoms, that they were yet in full vigor. Happily the farm had again changed owners, this time falling into possession of a gentleman who mourned as deeply as myself over the neglect of this precious grapery, and who, aware of its capabilities, intends to turn to good account the labors of his predecessor. The vines were not only planted to his hands, but were in the prime of bearing, and he had thus a ten year's start in his grape crop.

But mementoes of the taste and foresight of the nurseryman who once owned the farm, were abundant in the fields. There were old apple trees in profusion, with nearly a hundred pear trees of superior varieties, vigorous of growth, but utterly neglected, and reported as yielding small crops of indifferent fruit. The out-going seller of the farm had intended to cut them down. He knew the market value of pikkles, but the pear culture was a sealed book. The buyer, educated in a different school, believed that there was yet a high money value in these trees, and that they could be resuscitated. We stood among them and debated the question. He thought that here was a foundation to begin upon, and that an investment of money in reviving them would yield a far quicker return than in waiting for the product of a newly planted orchard. Among other facts and experiences, reference was made to the memorable account recorded in this journal, nearly twenty years ago, of the complete renovation of two outcast pear trees. Like all these, they had once borne excellent crops of fruit, but for several years had produced only worthless specimens. The owner was

told that the trees—for there were several in like condition—had exhausted the proper element in the soil, and that it must be re-introduced by artificial means. That autumn he carried out the suggestion, and scraped off all the rough outer bark from two trees, then coated them with soft soap, cut out about one-third of all the poorest branches, and shortened the head of the tree one third by cutting back the principal limbs, paring the wounds and covering them with the shellac solution.

This preparation being made, a trench was dug around each tree, three feet from the same, four feet wide and twenty inches deep, the soil being carted away. In making this trench, about a third of the roots were cut away. The trench was then filled with soil from a good pasture field, there being added at the time of filling, two bushels of refuse scoriae from a blacksmith's forge, two of well broken charcoal, and two pounds of pulverised potash. All these were thoroughly intermingled after the trench had been filled, by frequent over-turnings with the spade.

The result of this cheap and simple operation was manifest the following summer. The luxuriance and vigor of the foliage were surprising, for the newly formed roots were wandering into fresh and wholesome pasture. The next year there was a moderate bloom, but every blossom produced fruit. The third season there was a fine crop, the two trees producing six bushels of superb fruit. It was convincing evidence that the failure of old established pear trees to produce good crops is owing to a want of proper nutriment in the soil, and that instead of cutting them down when they cease to bear, they should be taken in hand and renovated. Such was the determination of the new owner of the farm referred to. He looked at these trees as money-making machines, capable, when renovated, of producing at least two hundred bushels annually, which, at current prices, would pay enormously for the cost of securing them. The example should have its weight with

the many who have apparently superannuated orchards. It is evidently not the trees that are exhausted, but the soil in which they are growing. The choice fruits have now so high a market value, that few

investments can be made to pay so well. If the planting of a new orchard be a work of skill or merit, that of renovating a barren one is infinitely more so.

FLOWERS IN MASSES.

BY EDWARD S. RAND, JR.

THE last few years have worked a great change in the mode of growing flowers. Formerly it was the individual plant or flower, which it was the aim and study of the gardener to produce, now the general effect is the great end to be attained, and to produce this result flowers are grown in masses. While thus much is lost in symmetry and individual beauty, much is gained by imposing and attractive combinations. There are many plants which individually are insignificant, which in masses show to great advantage. Nor is this the case with plants of humble growth alone, as might be supposed; many of our plants of stateliest habit look better in masses than as specimens, because the one covers and conceals the defects of the other, and a dozen plants may appear as one of fine proportions and great size.

We would by no means discourage the growing of plants as specimens;—we mean in the garden, for in the present article, we have no reference to green-house culture—it is only thus that the fullest beauty of the plant can be developed. A single plant grown where it can receive light and air, equally on every side, where every lateral bud has every opportunity to break into a branch, and each little axillary bud can freely send forth its shoot of foliage or bloom; where the terminal shoot receives unshaded its daily meed of sunshine, and its nightly bath of dew, will develop the true habit of the plant, whatever that may be. In many cases all the gardener's science can do nothing to assist nature; the

plant is well proportioned and elegant, but often the natural habit of the plant is bad, and upon such the skill of the gardener produces wonderful improvements. Some plants have a strong tendency to run at once to a head of bloom, to ripen the seed and die. A judicious pinching in of the young plant will give many heads of bloom, and convert what is naturally an awkward straggling plant into a neat and well proportioned specimen. Such plants are more pleasing to the eye of both the careful and careless observer.

While it may be a matter of interest to the botanist to know the natural habit of a plant, it is not for the gardener to allow plants to follow their nature if thus the most pleasing effects are not produced.

There are many plants which, grown as specimens, are of a stately and symmetrical habit, and singly are effective either in the garden or the landscape. These, unless a grand effect is to be produced on a large plantation, should not be grown in masses. Others again, as we have said, singly are insignificant, but in masses are effective.

It is a fact to be deplored that so large a proportion of those around us go through life with eyes shut to the beauty of nature. A little flower endowed with a delicacy which should point the most careless to the divine Creator, tinged with colors which no art of man can imitate, and framed with adaptations which no human power can create, is trodden under foot unnoticed and uncared for. It is only when masses of these simple flowers combine their beau-

ties, and display them with such effect that none but the blind can fail to notice them, that they attract the attention they merit.

In massing flowers however, much attention must be paid to the location of the display. A small garden would lose the grace and beauty which constitute its charm, if over-stocked with huge masses of flowers, while the flowers suitable for a garden would be lost if grown upon a lawn, or in avenue or woodland beds. We must study the size of the place to be adorned, and choose our plants accordingly, that all may conform to the general design, and that bizarre effects may be avoided. Yet it is impossible to make all conform to one standard; what to one will seem elegant, to another seems out of place, or insignificant. As the old copy book hath it, "many men of many minds," and each will plant his own domain according to his own ideas, though those who produce at home the most bizarre effects are often the first to find fault with others, and also those most likely to admire a place laid out and planted in accordance with the true principles of taste.

The object of our article is to call general attention to the effects which may be produced by growing plants in masses; to give a few general directions for their culture, and a selection of plants best adapted for this mode of growth.

In England, a peculiar kind of planting called "ribbon planting," has become very popular. It consists merely in planting low growing plants in narrow winding lines or belts, so that the various colored flowers or variegated leaves contrast prettily, often forming a belt with stripes of different colors. In this country it has not been attempted on a large scale, to our knowledge, and it is a question whether our hot summer sun would not, by drying up the plants, much impair the general effect. As a border for a narrow winding walk, such a design well carried out would produce a charming effect, which would be greatly

increased if the path rose up a gentle slope and was seen from a distance. It is the passion for this style of gardening that has caused so great a demand for plants of dwarf growth, and for those with variegated foliage.

It is evident that to produce the effect, the plants must be of one height. If the habit of the plant will not give us this, the care of the gardener must be called into requisition. For a simple illustration, what a pretty effect would be produced by a long line of the variegated Alyssum, with a line of the same width of Scarlet Portulaca edging a border of closely shaven grass.

The general rules for growing plants in masses are very simple. In the first place the habit of the plant must be considered,—we must not oppose nature; to make a tall plant from a dwarf, or to reverse the operation, though such things are successfully done, is by no means to be attempted on a large scale. In a green-house this may be done, but if we try the operation upon a mass of plants we must sacrifice either the grace of the plant, or our hopes of bloom. To illustrate, a bed of Portulacca is one of the finest ornaments for a lawn or level grass plat, but in a wood or shrubbery, it would be out of place, and be entirely ineffective. A group of Indian Shot (*Canna*) or Castor Oil Bean (*Ricinus*) would be in too marked contrast to a small grass plat; but the same in a large lawn would produce a stately and imposing effect.

Again, plenty of room should be afforded for the development of the plants. Nothing is ever gained by crowding, even if a better effect is produced for a few weeks in early spring. The result will be small foliage and sparse or under-sized bloom during the summer and autumn. (We speak now of plants bedded out).

The general tendency is to crowd the plants. When in the spring we set out a little cutting from a thumb pot, it hardly seems possible that the growth of a few months will give us a plant inconveniently

large for repotting, and so no room is allowed for growth. The distance to be left between plants must depend entirely upon their habit and size in perfection. The end to be attained is that the plants may present a mass of foliage, with no unsightly spaces, and no crowding. Some plants may be allowed to run into and over each other, of which we may mention Verbenas, Heliotrope, Portulacca, Tropaeolum, and as a general rule all plants of trailing and creeping habit. Others of tall, erect growth must be planted very close in order to produce a good effect, as Gladiolus, Japan and other lilies, Tiger flowers, and plants of kindred habit. Others again should be planted far apart, the exact distance being regulated by the size of the individual plants. These are generally plants of tall habit, with large spreading foliage, such as Cannas, Ricinus, and generally bedding plants of some shrubby nature. Others should be planted so the leaves will just touch the leaves of the next plants, thus covering the ground. This treatment is suitable for plants forming a dense crown of foliage which seldom rises more than a foot from the ground, the flowers being produced on tall stalks rising from the mass of leaves, such as Yuccas, Tritomas, Pampas Grass, (*Gynium Argenteum*). But give as many rules as we may, so various are the plants used, and such the differences in growth, which different situations or exposures may produce, the great responsibility in each case must be left to the good sense and taste of the planter.

The soil for plants grown in masses should generally be rich, in order to produce large healthy foliage; it should be deep, that the plants may not suffer from drought, as nothing looks worse than small sickly foliage. Tropaeolum and some kindred plants do better in a poor shallow soil, for otherwise, they run all to foliage and produce no bloom. The shape of the beds should be round or oval, both for effect and for greater convenience in keeping the grass

edging in order. Our mode of preparing beds for massing, has been thus: After the autumn work of the garden is finished, the frost having killed the flowers, we select the site of the beds in the lawn or some suitable grass-plat, or woodland glade; carefully cut out the bed of the required size, which must be regulated by the habit of the plants we intend to use: a good size for a round bed, if to be viewed at a distance and to be filled with tall plants, is five feet in diameter; carefully remove the sod, leaving a clean edge on the bed; excavate the bed three to four feet deep, keeping the loam in one pile, the sods in another, and carrying away all stones, gravel or hard clay subsoil; if there is any sand excavated, retain a portion for future use in the compost for filling the bed. If the subsoil is clay, fill in six to ten inches of small stones to afford good drainage, for many perennial plants and all bulbs are very impatient of damp or standing water about the roots. A neglect of this precaution causes much disappointment in the culture of bulbs; if the subsoil is sand or gravel, no drainage is necessary. Prepare a compost of one part loam, one part peat, one part well rotted manure and one half part each of fine sand and leaf mould. Fill the bed in with this compost, well mixed together but not pulverized, raising the centre about six inches above the sides and sloping all round to the upper edge of the grass. If the bed is not to be planted until spring, pile in the compost loosely, somewhat higher than needed, and leave all for the frost to act upon it and to settle during the winter; in the spring fork all well over before planting. If the planting is to be done immediately, leave all a few days to settle, then fork over, rake and plant. A bed like this will last for years, only requiring a light top-dressing of fine manure in the autumn, which should be left on all winter and carefully forked in early in spring; we have often found it beneficial to spread a thick covering of leaves over the bed in autumn, over these put the manure and fork all over in spring. A bed for bulbs

prepared in this way will be a constant source of pleasure, and will give a succession of bloom from May to November,—the bulbs used should be Snowdrops, Persian Iris, Crocus, Narcissus, Jonquils, Hyacinths, Crown Imperials, *Frittelaria Meleagris*, Tulips, *Lilium Excelsum*, *Lilium Aurantium*, Martagon Lily, *Lilium Chalcedonicum*, *Lilium Superbum* and *Canadense*, *Amaryllis Formosissimus*, *Gladiolus*, *Lilium Lancifolium*, *Punctatum*, *Roseum*, *Rubrum*, *Album* (Japan Lilies), Autumnal Crocus and *Colchicum Autumnale*, white, purple, and variegated. All of these, except the Jacobean Lily, and the Gladiolus are hardy, and need not be disturbed from year to year, and with this selection, for six months in the year, we may have a succession of bloom; the plants are named in the order in which they bloom. The plants best adapted for masses are numerous; to even mention all would far exceed the limits of a single article. As a general rule any plant may be grown in a mass, due attention being paid to its habit and development. We propose, however, only to name a few which we have found eminently suitable for this mode of culture.

The Indian Shot (*Canna*). This plant is very conspicuous on a lawn, the leaves are large, showy and tropical, of all shades of green, and often with purple markings. It is a tall growing plant, some varieties attaining six feet in height, the flowers are showy even in the common variety, (*C. Indica*), and in some species very beautiful; that of *Canna Nepalensis* equals in size and color the *Hedychium*, all species need a very rich, deep soil and a warm exposure. It is better to plant roots than seeds, for the latter seldom give plants more than a foot high the first season. A fine bed of varieties, easily procured, may be thus made: *Canna Gigantea* in the centre, plants (if large), eighteen inches apart; next, a circle of *C. Limbata*, twelve inches apart; next, *C. Nepalensis*, twelve inches apart, or if large roots, eighteen inches; next, a double row of *Canna Warczewiczii*; close to the grass a broad line of variegated

Sweet Alyssum. We have then a dark-green centre with reddish orange flowers—next, light-green foliage with reddish flowers; *Lunaria* next, glaucous green with very showy creamy yellow flowers; then, purple foliage with scarlet flowers, affording a striking contrast with the White Alyssum.

The Castor Oil Bean, (*Ricinus*) in its many varieties, giant and dwarf, with every shade of foliage from deepest purple red to whitish green is very effective. The seeds should be started in a hot bed, and planted in position after all danger of frost is past. The plants need a deep, moist, rich soil, and no exposure can be too hot if the ground can be kept moist.

Japan Lilies.—These planted in a large bed are very showy. Set the bulbs rather close, say about eight to twelve inches. Such a bed presents a striking effect by moonlight.

Gladiolus.—No plant is better adapted for massing. The beds should be small, say from three to four feet in diameter. Set the bulbs nine inches apart; support each shoot with a slender willow stick, and tie as the flower stalk grows.

This is a beautiful bed to form in an open glade, in a wood, or at the end of a vista; the bright color of the flowers producing a dazzling effect.

The cheaper varieties only need be used, of which the best are

Brenchleyensis.—Vivid glowing scarlet, the best of all for this purpose.

Penelope.—Pink and flesh color, a very large flower and immense spike.

Hebe.—Pink and Cherry.

Couranti fulgens.—Red.

Madame de Vatry.—White, immense spike.

Endymion.—Pink.

Sulphureus.—Light Sulphur yellow.

Emma.—Deep red dwarf.

The *Yucca* makes a splendid mass, the foliage is always ornamental, and a mass of the tall aloe-like flowers is a most conspicuous object in a garden. All the species need a deep rich soil, and the plants should be seldom disturbed.

We have had one bed produce twenty spikes of bloom, one of which exceeded six feet in height, in our garden the past summer.

One of the great objects to be attained in massing is a succession of bloom and fresh bright foliage; therefore, with very few exceptions, perennials, (herbaceous plants) are not suited to this mode of culture, as they bloom only for a short season, and the foliage soon becomes ragged, faded and dirty.

The same objection applies to many annuals, such as bloom freely may be excepted, for example, some of the Marygolds, which are very showy during the autumn months, and those plants with dark or variegated foliage, such as *Perilla Nankinensis* and *Amaranthus melancholicus*, which are always very desirable.

Many green-house plants are very effective in masses. The species used are as various as the fancies of the growers.

Of bedding plants, such as Verbenas, Cupheas, Geraniums, Salvias, Heliotropes, Bouvardias, Ageratum, Alyssum, &c., we have no need to write. All do well, but are seldom effective unless planted near a path. At a distance the effect is lost, except, perhaps, in the case of Scarlet Verbenas and Geraniums.

Dahlias, (except perhaps the Lilliput varieties, which, pegged down, do well,) are not suitable for massing; the habit of the plant is too tall. They show to the best advantage planted in a close line against a back-ground of evergreens.

There are many other plants which might be named. We have only mentioned a few which are most effective. In this as in many other things, each must make his own selection, and often many failures are necessary to teach one what to choose.—Experience is always the best teacher.

Glen Ridge, May, 1864.

GRAPE CUTTINGS FROM HISTORY.

BY JOHN S. REID.

THE native country of the Grapevine, commences about latitude 25° north, in Asia, running to 40° in the same atmosphere; but extending as far north in its cultivation, as latitude 50° in Europe, although between latitudes 30° and 40° appear to be its favorite climate. When we examine the nature of the grapevine, and its wonderful adaption to soil and climate, our cause of wonder is its wide-spread area, for it is found on the sterile mountains of Switzerland; on the banks of the Rhine, and the Carpathian mountains, as well as on the banks of the Mediterranean, and the far distant lands of Cabool and Hindostan.

But at present we intend to speak of the vine, as found in Asia Minor and the Holy Land. We mean to talk of the grapes of Eschol, and the vineyards of Engedi; of that land promised to the Jews, as being

a land flowing with milk and honey; where Judah should bind his foal to the vine, and his Ass' colt to the choice vine; whose garments should be washed in wine, and his clothes in the blood of grapes.

The earliest authentic account we have of this country is in Holy Writ; and of the grapevine in particular, is on the return of the spies from viewing the same, in their report to Moses, which reads thus:—“And they came unto the brook of Eschol, “and cut down from thence a branch with “one cluster of grapes, and they bore it “between two upon a staff.”

Now some of the Jewish Rabbis contend that this was an enormous bunch,—a bunch so large that it required eight men to carry it, and in some of their writings they have magnified the whole of the grapes of Eschol into bunches of enormous size, so

much so, that one grape was sufficient for wine for a small family,—a family of the Lilliputian order or species, we presume. Now some of our readers may inquire, where was Eschol, and what kind of soil was it that produced such prodigious grapes? Well, never having been there ourselves, we do not pretend to give an exact analysis of it, nor whether the soil of the brook Eschol was prepared according to rule, as our grape-borders are now prepared; but we would presume that it was pretty well gotten up, when it raised such extraordinary grapes. But as to the brook itself, we find it laid down in some of our maps, as one of the branches of the brook Serek, which rose not far from Bethzbar, between Jerusalem and Eylon, and that its waters emptied into the Mediterranean, near Ascalon, in the land of the Philistines, in latitude 32°. Opposite Eschol on the Dead Sea, south of east is Enyedi, a little below the brook Kedron, mentioned so often in the Sacred Text.

Again, if one will take a map of Asia Minor, and run his eye down to the south-east cape of the great sea, he will find the latitude of Gaza to be about 31°; and then by following the eastern shore of this mighty sea, up to its northern banks, he will discover the extent of territory claimed by the ancient Jews, as the western boundaries of the Holy Land, all of which was the land of the Olive, the Pomegranate and the Vine; for here were the vineyards of Libnah, Jazer, Abel and Sorek, mentioned by the sacred writers; whilst profane authors name Gaza, Sorepta, Libanus, Tyro, Ascalon and Sarou as vineyards of known value, the bunches of many of the kinds of grapes cultivated there weighing not less than 20 pounds each.

On the Eastern borders of Judea was the land of Moab, the Wilderness, the Dead Sea and Edom. Hence the beautiful apostrophe of the Bible: "Who is this that cometh from Edom, with dyed garments from Bozrah, &c."

The season of the vintage generally com-

menced in the month of September, continued through October, and closed in November, amidst general rejoicings.—Travelers write of the mode and manner of cultivating the grape, which seem to be in the simplest way. Some of the vineyards are trellised with posts and slabs; others are without any supports at all, and the vines are allowed to ramble on the ground, while on the terraced hill sides, the vines hang pendant on the terraces ripening in the sun—the very children of nature.

In a few of the vineyards near Enyedi, small posts were set in the ground for the vines, whilst in those around Samaria, they were tied together something in the form of a small bower, with their tops forming the coronal, the grapes hanging inside.

It is somewhat difficult to say exactly, what were the qualities of the grapes of the ancient Jews, when their land was one among the nations of the earth, nor what was the true quality of the wine as compared with any of the wines known to us.

At the fairs of Tyre and Sidon, wines were sold as articles of commerce. Some were reputed as most excellent in their characteristics, such as the wine of Helbon, of Biblos, of Libanus, and Tarepta.

Odoriferous wines were also not unknown to them, for it was customary to mix with the *must*, sweet scented herbs, drugs and myrrh, to flavor the wine, and give it strength, and make it capable of abating pain. Nectar was also a wine of the same quality as the Odoriferous wines, and used only by the Princes of the land. Hence the idea among the Greeks, that this wine was the drink of the Gods.

Eviran, the capital of Armenia, abounds in vineyards and gardens, and here the people of the country believe that Noah planted the first vineyard. The small grape Kischmish is raised here without seeds, and from a small red grape most excellent wine is made.

Mr. Layard, the English traveler says, that in examining the ruins of Nimroud, he

found many articles of much interest, among which was a metal wine strainer of elegant shape. He also frequently saw as he descended the Tigris, between Mosul and Bagdad, vineyards and Olive yards, where the vines were trellised in front and around the houses; and most luscious grapes were brought to him and his party by the Arabes.

Generally speaking, the wines of Palestine were heavy, sweet wines, in which water had to be mixed to prevent intoxication. The Scybellites, the Tibenum, the Arsynium, and the Abates are all wines of ancient celebrity; some of which were termed light or dry wines, not unlike our Catawba and Rhine Wine.

The wild vine, or one somewhat like our Labrusca, grows in profusion along the highways and among the hedges of Palestine, but its size does not average our common Fox, and the berries are small and acid. The yellow Syrian is supposed to be the ancient grape of Eschol, its bunches now ranging from 10 to 20 pounds, and very productive. There is another one of excellent quality, of an oval shape, and transparent, and a red grape, of size and shape not unlike our Diana; whilst travelers speak of a large black grape of superior quality for dessert, making a rich sweet wine.

So much for the grapes and wines of the Holy Land.

HOME CUTTINGS.

This month (April) opened cold and stormy, with high winds and heavy rains, so that our vineyards are fairly two weeks behind the usual seasons, and the buds, that should have been fully opened and showing fruit blossoms, remain semi-shut, although otherwise sound and healthy.

The Delawares and Clintons appear to have stood the winter better than any other; then comes next, the Concord, Diana, Lincoln, Union Village and Rebecca. These were left out all winter, unprotected, but the Iona and Israella were covered with earth, so was the Page and Allen's Hybrid, all of which when uncovered first of April, looked well. In speaking of the PAGE, all I know is from report, and this was given before. Its leaf seems like to the Herbemont, and its stem strong, but tender. I have about half a dozen of the vines, although only one is old enough to speak from. I have not seen its fruit.—Having several seedlings which show signs of fruit, I hope to inform you in the fall, of at least one of superior merit, a rival for the Iona, or Adirondac, or any other new variety.—Ain't this presumption.

NOTES UPON NEW AND RARE GREEN-HOUSE FERNS.—No. 1.

BY DANIEL BARKER.

GENUS POLYPODIUM.—SELECTIONS OF THE MOST RARE AND BEAUTIFUL.

DETTOIDEUM.—A very remarkable and handsome variety of 'Vulgare'; fronds erect, from 1 to 2 feet high, and from 4 to 6 inches wide.

CRISTATUM.—Well grown specimens of this are exceedingly handsome. Many of the perfect fronds resembling the beautiful Lastrea Filixmas Van Cristata; fronds from 12 to 15 inches high, and about 3 inches wide. Each division or pinnae ending in

a three-forked parsley-like tuft, with a much larger one at the top of each frond; a beautiful variety for the fern case.

MARJINATUM.—A very singular and rare variety; fronds not more than 9 inches high by 2 wide. In one plant I noticed each lobe was distinctly eaved, as the variety 'Auritum.'

VULGARE OMNILACERUM.—This exceedingly beautiful variety, I noticed in some

two or three private establishments, and but at one of the great floral exhibitions. It is one of the most distinct and handsome of the many beautiful varieties of this fine genus, and ought to be in every collection of greenhouse ferns. Fronds from 1 to 1½ feet by 6 inches wide grow well in the fern case.

VULGARE CAMBRICUM.—Although this is not a new variety, it is a most lovely fern. Fronds from 1 to 1½ feet and 6 inches wide and *always barren*. This I presume is obtainable in many of the collections in this country, and from its peculiarly handsome appearance, should be in every collection of greenhouse ferns. It will flourish in the fern case, where it is a beautiful object.

VULGARE FLEXILE.—Extremely handsome. The fronds which are almost prostrate, are about 9 inches long and 2 wide; lance-shaped and divided. The pinnae inclining downward; the pinnules *distinctly toothed*.

VULGARE BIFIDO LOBATUM.—A new and very distinct form of 'Bifidum.' A beautiful small evergreen variety, well adapted for cultivation in the fern case.

VULGARE SERRATO TRUNCATUM.—A very remarkable and singular variety; fronds about 1 foot high to 3 inches wide. The pinnae distinctly toothed, and has the singular appearance of having been bitten off. All the plants which have come under my notice are apparently constant.

ALPESTRE.—Comparatively a rare species. It is a most delicate and lovely fern. The fronds are lanceolate in shape, and from 1 to 2 feet in length. Color, a beautiful deep green. The habit is upright and very graceful.

VULGARE SOMILACERUM.—A most beautiful fern when well established, and very *constant* under cultivation. Fronds from 1 to 1½ feet in height, and about 6 inches wide. The fructification in this variety is remarkably prominent.

AURITO DENTATUM.—A rare and beautiful variety. The only specimen which I saw of this was found growing wild near

the celebrated Lake Windermere, county Westmoreland, England. The lobes are very aurite or eaved, (as in the variety *Auritum*), next the main rib, a small variety, the frond being normal in outline.

VULGARE BIFIDUM.—The lobes of this variety are seldom all alike, and I think quite liable to vary under any circumstances. When a good form is obtained it is very fine and beautiful.

COMPOSITUM.—A truly composite variety which is very difficult to describe. It combines the variations, more or less, of *Bifidum Serratum*, *Auritum* and *Endivifolium*, a particularly beautiful and interesting variety. Should be in every collection of greenhouse ferns.

INTERRUPTUM.—A very curious and singular variety, with the general appearance of *Flexile*. The lobes are all irregular or interrupted, many of them being absent altogether. All the fronds which have come under my notice of this most curious sport, were barren of sori.

MULTIFIDO CRISTATUM.—The fronds of this splendid variety consists of little more than a long stalk, and about two inches of a most beautiful crested margin or tufts, which form an exceedingly handsome crest, one of the most interesting and splendid varieties in cultivation.

I made notes of no less than 30 varieties of *Polypodium*, at the various exhibitions in Europe, during the last summer, many of which are exceedingly interesting and beautiful. Many may not be constant in cultivation. Those named above, I believe are so, (with the exception of *V. Bifidum*) and can be depended upon as such; that a few years will bring many, even more beautiful than those which I have very feebly described, to light, there can be no doubt, comparing the normal form of "Polypodium Vulgare," with such beautiful varieties as *Cambricum*, *Somilacerum*, *Omnilacerum*, *Endivifolium* and others, there seems to be no limits to the forms which may yet appear.

There is a wide field open to the lover of

this fine genus, and there is no reason why the collection of Ferns, (in this country) should not be as rich in *native* varieties, as

those in Europe. The time *will come* when they will be.

HINTS AND QUERIES.

BY J——, ELGIN, ILL.

ENGLISH Gooseberries,—must they be discarded? I dug up mine years ago, all but one bush which I fondly spared for its “handsome doings” in early days. This I nursed with care; but notwithstanding all my pains-taking, year by year the mildew would take the berries as regularly and surely as the “little Turk” my plums, till last season, that dryest of seasons, when, wonderful to tell, it gave me a fair show of healthy fruit again. What did it? Was it the shade of a small Austrian pine which began to loom up on the south side, or the dryness, or something else?

A neighbor has a neglected row of bushes of the same kind growing in stiff clay in a low shaded spot, which has never failed to give him fair fruit during all these years. Well, perhaps “it’s no consequence.” The Houghton, though smaller, is always good, fine flavored, easily managed and productive.

The Weeping Willow, (*Salix Babylonica*) my old favorite “ornamental,” will not be coaxed here into enduring thrift. I have been trying divers methods in different localities, and waiting almost a generation without success; getting it up some fifteen feet or more, with a fair sweep of drooping spray, and then, by some untoward winter seeing it reduced in the spring to incipient conditions. But two have attained a respectable size in our place,—having doubtless found a somewhat congenial habitat—one high on a terrace near the wall, the other, low, having cellar drainage. Will the new ones, American and Kilmarnock do better?

We can make many things grow on the wrong side of Isothermal lines when we

learn how. We must know the wants of the nurslings, how much sun, how much shade, what kind of soil, how much wet, and how much dry. For instance, the Catalpa will not be reconciled to the conditions of my grounds. After trying it several years I had to dig it up, but the roots being good, I was loath to throw them away; and remembering how I had seen them flourish on the banks of the Dan and Stanton, and on the Delaware, I planted them on the dry, sandy and gravelly banks of our little river, in a bleak exposure, where they have continued to grow and bloom quite well.

Was it the Winter or the Beetles? My grapevines were infested in the Spring of 1863, with the little steel-blue Beetle, (*Halticacalybea*) the only time I have ever noticed them in my garden. In June following, their larvae were discoverable on the leaves. Where they were most numerous there was but little fruit, and little new sound wood.

The Winter of 1864 was destructive to all exposed wood, but mine was covered with leaves and litter. In the Spring following, many of the canes were injured, some dead. Some Delawares and Dianas lost an arm as well as spurs, marring badly my careful pruning and training.

The Birds and the Fruits.—Well, lackaday—there does seem some bitter with the sweet, a prick in every pleasure. The Birds—I am delighted with their music, their plumage, and their motions; but to feed them from Strawberry time till Grape gathering is quite another thing. O but, say the knowing Solons, they save the

fruit from hurtful insects. Yes, they do take the insects, *and* they take the fruit too. "Well, it is only a small per centage they take for protection." Small? I happen to think otherwise. I am of opinion they care little for insects while the fruit lasts. Why, what portion do you suppose it takes of my Tom Thumb and Champion peas to rear a hatching or two of Orioles? And how many rows of all my small fruits will it require, think you, to feed the families of half a dozen pairs of Robins, ditto, Cat Birds, ditto, Brown Thrashers, and a colony of Cedar Birds? And then, there are the peckings and suckings and pluckings among the larger fruits, the fair sunny-side show specimens, the products of nice culture just mellowing into ripeness—all spoiled at last. The pretty provoking harpies, the thieving gourmand pests! The insects forsooth and compensation! Why, these gay allies live on berry-deserts.—What if they do now and then snap up a stray beetle, or some luckless moth, and gobble their larvae; they return with eager

haste and appetizing fondness to their favorite fruit repast, morning, noon and night. And must all my outlay, toil and waiting come to nothing? Or must I do picket duty, and pace my garden like a sentinel to keep off the marauders? No, I'll fire; yes, I'll shoot!—So I feel sometimes.—But then, in the Spring-time I shall welcome them again; their trills and carols will touch responsive chords, and I shall let them build and rear their younglings; in the Summer and early Autumn I shall be sore vexed with their misbehavior.—But I shall dismiss them in frosty time with something of the philosophy and feeling of "Uncle Toby."

I must thank H. W. S., for giving us in the January number, his successful method of growing "Broad Leaved Evergreens." This is nature's own way. I have tried other treatment and failed. I shall try again, and I shall succeed. I wish he had told us where to find the three new mahonias.

FLOWERS AND THEIR CULTIVATION.

BY O. H. PECK, MELROSE, MASS.

Messrs. EDITORS:

Gentlemen,—Please allow an humble individual, a short space in your valuable and interesting magazine, to be devoted to the pride of his heart, the bent of his will, and the insatiable appetite of his mind, viz: "Flowers and their Cultivation."

Hard-hearted, callous-minded, inexorable, old, and sometimes young chaps can see nothing to admire with interest, in the beauties which nature has prepared for soothing the sorrow, comforting the afflictions, and making glad the hearts of the denizens of this world. To all such allow me to say in the language of one who left his earthly tabernacle, to bloom in the gardens of Paradise, nearly one hundred years ago.

"Go poor devil, get thee gone; why should I hurt thee. This world surely is wide enough to hold both thee and me."

But to those dear old friends, whose joy of the beautiful never ceases to flow on in its pellucid stream, who love to feed on flowers and spend their little crowded hour of life in that most noble and glorious pursuit, the cultivation of flowers. I do entreat thee lay aside all prejudice, and "pride that licks the dust," and come with me to

"Gather rosebuds while ye may,
Old time is still a flying;
And this same flower that blooms to-day,
To-morrow will be dying.

God beautified the earth with flowers, intuitively we love them, argumentatively we cultivate them. How lively and charm-

ing is the sight, when delicate buds of gayest colors are put forth, when little petals expand to the sweet notes of innumerable birds, whose melody is softened by the gentle motion of the air. The arising sun warms the awaking day, drinks the holy dew which fell from heaven, adds new lustre to the festive blossoms, and sends a ray of divine light, deep into the recesses of the heart of the ardent lover of God's annual gem, colored and perfumed in the bowers of Paradise.

What delicious fragrance floats on the air! We are filled with such pleasing sensations that we feel transported to the Oriental Gardens of the East, where groves of oranges and citron send out their ravishing perfumes; where roses entwined with woodbines appear in beautious contention; where noble vines adorn the naked branches of stately elms; blushing and transparent fruits peep from between the foliage; where acres of roses fill the air with luxury, and odors of cloves, sandal wood, cedar and frankincense soporates the beholder with delight.

The fragrance and somnorific power of the odor from the flowers of the Orient are to us unknown. It is related of a Persian poet who was rich in genius, but who wrote little, that on being asked why he did not produce more, replied, "I intended as soon as I should reach the rose tree, to fill my lap and bring presents for my companions, but when I arrived there, the fragrance of the roses so intoxicated me that the skirt of my robe slipped from my hands."

It may be true that the flowers of the Oriental world surpass in richness of color, and in overpowering fragrance those of our colder clime, still I cannot believe they are adored or appreciated more. Among Americans, there seems to be a growing love, and an increasing admiration for flowers. We hope and trust that this love will meet with no obstacle to retard its progress, but on the contrary, may it continue to expand until the love of all hearts shall be

drawn within its fascinating folds, and may the time be near at hand, when the flower garden shall become an institution, and a part of the household of every householder, never to be dispensed with.

A stranger on visiting the vicinity of the city of Boston, is greatly surprised at the large number of chaste and beautiful homes which meet his view on every hand. These suburban residences are built with much fine taste and skill, and the grounds laid out in ornamental and useful designs. We often see a beautiful sheet of water with a fountain in the centre, throwing up its sparkling stream of crystal gems; beside the gravelled walks, in beds of richest earth, are flowers in every color, shape and style. The pretty little annuals whose lives are cut off by the first sharp breath of the wintry king; the perennials whose autumn death is but the prelude to another life; these with the hardy shrubs and bedding plants, give a succession of flowers throughout the season. Gambolling around the home, are the little children, pets of the household, enjoying the life giving atmosphere, which sends the warm blood to their dimpled cheeks. The gray pony, with his low seated wagon is drawn up before the door, ready to carry the happy family to their twilight ride. Dog carlo wags his tail in consequential assent to all the proceedings.

Such are some of the comforts which you find in New England Homes. Let each and every one of us do all in our power to advance and promote this living and enjoying living. In what better way can we proceed, than inculcating in the minds of the young, the beauty and loveliness of flowers; loving gifts of a beneficent Creator. Teach them to plant the seeds, to watch and protect the flowers, to make it a part of their daily routine of life. Happiness and innocence will be the blessed result.

"All who joy would win—
Must share it—
Happiness was born a twin."

NOTES OF FOREIGN TRAVEL.—No. 1.

In an ornamental point of view the environs of London present several general characteristics, while the Horticulture within and around the metropolis is usually, and perhaps justly regarded as embodying all that is known of excellence throughout the country, and as affording a fair criterion by which its progress may be judged.

The valley of the Thames, from London up to Hampton Court, is rich in all the beauties which water-side villas and villages commonly impart. The neighborhood of Fulham and Kew, Twickenham and Richmond may be specially singled out as affording pleasant banks, with green lawns of perfect verdure, noble trees, and beautiful and commanding sites for the most commodious and comfortable country seats to be found in all lands. The celebrated villa of Pope, at Twickenham, has been converted into an extraordinary modern residence, in a mixed Chinese style, and has thus lost its original identity, and its peculiar associations. Strawberry Hill, the seat of Horace Walpole, still remains, without essential alteration. The whole of this country, on both sides of the river, furnishes admirable sites for gentlemen's seats, presenting broad masses of trees, and blades of grass, with sufficient variation and elevation of surface to render the views commanding, while the mingling of park and village, of trees and hedges, of castle and villa, and horticultural structures, present a picture of wonderful interest and beauty.

Among the noble trees which are always preserved with such care and cost by the English, there are many Cedars of Lebanon, of great age and size, and which constitute a peculiar feature in the landscape of these suburbs. They are unusually numerous on the west and south-west sides of the city. As the adjuncts of stately mansions or elegant villas, along the valley of the Thames, they are remarkably picturesque and effec-

tive, and the traveler can scarcely pass a hundred yards along portions of the western roads, without coming upon fresh specimens and groups of them. It is scarcely necessary to add that they communicate a very marked and aristocratic character to the district. And they are as beautiful in their early growth, as they are venerable and majestic when old. They are here met with in avenues, and standing opposite each other, near the house, or on a lawn, or as single trees, or part of a group of mixed species. But very rarely, I noticed, are they found grouped together in mass of three, four or more, on lawns, or in parks. Those at Holland House are a notable exception; but they are unfortunately now so shattered as to have lost their distinguishing beauty. No tree, perhaps, if we may judge from the imperfect examples we have seen, and from the more satisfactory descriptions of those still existing on Lebanon, is better adapted to unite into a splendid group for a lawn, or for the slope of a park, or especially for a swell or knoll in either a park or garden, where they would be sufficiently sheltered. As trees for detached grouping, with their own species alone, both this and the Deodar have, I think, yet to develop a new and most uncommon character in the English landscape.

Lombardy Poplars, with their stiff, ungraceful forms, are very freely introduced into the scenery around London. This tree seems to harmonize somewhat with the pointed style of architecture, and one or two, I have often thought, might be planted in the church yard, with good effect,—its upward pointing and aspiring growth would seem to be in keeping with the Gothic structure against which it is relieved.

There are some celebrated Beeches at Burnham, and Windsor Park contains some superb specimens of this noble tree. In

the neighborhood of Sevenoaks, Kent, also, the Beeches at Knowle Park are of the finest order, while those in the Marquis of Camden's park, adjoining, are superlatively beautiful, being planted on the slope of a hill, and spreading down their branches on the grass, in the most graceful and natural fringe imaginable. On the top of a hill not far from this, but nearer London, are the famous Knockholt Beeches, which, standing alone in a considerable group, make a conspicuous landmark which can be seen for thirty miles around.

In Kensington Gardens, Greenwich Park, and other places, are to be found some very fine specimens of Spanish Chestnuts. It is a first rate park tree, especially for low sheltered situations. In Bushy Park there is an avenue of Horse Chestnuts of extraordinary beauty and attraction.

Weeping Willows, especially in the Surrey suburbs, are frequently found in the

smaller villa gardens, though more commonly reserved for the margins of water in larger places, or for overshadowing tombs in cemeteries.

Visitors in the neighborhood of the Metropolis, in autumn, will be much pleased with the appearance of the Virginia Creeper, which abounds on houses, cottages, walls and gateways. The mixture of red and yellow, and a purplish tint in its foliage at that season, imparts great richness to its appearance. It is a favorite vine wherever known in England.

It is not my purpose to catalogue or describe the trees about London; but no mention of English scenery would be complete which left out the Old Oak, of which the English are so decidedly and justly proud. In the notes of the Parks in and about London, which I propose to send you, the Oak will not be lost sight of or forgotten.

THE STABILITY OF THE TYPES OF VEGETATION.

BY DR. J. STAYMAN, LEAVENWORTH, KANSAS.

EVERY atom of matter has within itself the laws of attraction and repulsion which is coexistent with it.

We cannot conceive of it in any form independent of those laws. All matter is susceptible of assuming either state, or both, owing to its electrical conditions, positive or negative.

Likewise, all matter is capable of assuming three forms: solid, fluid, and gaseous. The solid is the attractive form, the gaseous the repulsive, and the fluid the intermediate. In the solid state every particle is held together by the law of attraction, and in the gaseous they are separated by the law of repulsion. As all matter is in one of these conditions, it must attract or repel other matter in proportion to the affinity existing between them. Consequently, we have the law of motion as an essential property of matter which always exists

with it; which may be increased or diminished in proportion to its relation to other matter.

In composition and organization we see its adhesive and positive effects, and in decomposition and disorganization we see its repulsive and negative effects, and in its intermediate state it is held in equilibrium by the opposing forces, and in that state matter can only be said to be relatively at rest.

By the laws of attraction and repulsion, particles or atoms unite by a definite law of proportion, as each ultimate element has a *fixed form* by which it retains its properties and identity: any *change* in the arrangement of those atoms will produce a different result. Therefore we have many varieties and form of matter yet of the same composition.

It is by this law of affinity that objects

preserve their existence distinct by attracting only those materials in certain proportion most congenial to their nature. By this law every organization is built up and retains its peculiar character, though every part is supplied by the same general fountain, yet each part, by this law of affinity attracts only such substances in definite proportion that compose the different parts of the organism, as the wood, bark, leaves, flower and fruit.

It is by this law that we are enabled to classify into genera, species and variety; each class preserving its peculiarities inherent in its constitution, assimilating and depositing to every part of the plant what is best adapted to its nature.

In each of these classes there are peculiar tendencies, each has its own character and form of growth, by which it is capable of sustaining other varieties of the same species when engrafted upon its own stock. By this law of affinity each variety must retain its identity distinct from all others, upon the same principle that the different parts of the organism does, as the leaves, flowers and fruit, &c.

Although the different parts of the plant be supplied by the same general circulation, and composed of the like elements, yet by these laws of attraction and repulsion, composition and decomposition, organization and disorganization takes place, until each part has rejected or received its just proportion in its own peculiar form and manner to retain its identity. If there was not a law of this character, all nature would become a mass of confusion, its identity would be destroyed, what would be recognized to be a fact at one time would be different at another; so all distinction would be lost, and we would be placed in a labyrinth of uncertainty, where all knowledge based upon observation would cease.

But by these unerring laws, all vegetation retains its peculiarities and properties, and preserves its least shade of difference throughout numerous ages unless crossed by some different variety.

To illustrate this subject more fully, suppose we take a certain plant, (say Delaware Grape,) this will retain and preserve its peculiar character throughout all ages, in every climate; (though modified by cultivation and surrounding circumstances to some extent) when returned to its native home it will have the same character, not even having changed in the least by ages in a foreign land. Neither climate, grafting on other stocks, or manner of growing can change it. We cannot even do it by crossing or hybridizing, but simply produce a new variety, partaking perhaps of the character of both.

The reason of this is, the production of new varieties depend upon the germ principle, which may have its inherent atoms differently arranged by the pollen of its own flower, or that of some other variety. Consequently scientific experiments upon this subject, will demonstrate that by careful examination of the character, constitution and habits of plants, and their hybridization, for the purpose of remedying their natural defects, will produce a healthy and improved order of vegetation with any peculiar characteristics desired, as have been done in the animal race.

Constitutional defects can only be remedied or counteracted by the strongest possible efforts, and by hybridizing with those of very marked opposite tendencies, which must predominate to give a positive effect to their products. As long as this state is continued and this law observed there will be an improvement; but on the contrary, should it be neglected the negative state will take the ascendancy, which will soon lead to degeneracy and go back to the original and unimproved type.

The reason of this is, the positive state has always a surplus to spare, and has therefore the flower to give or impart, and will make the negative conform to it, minus the amount of the negative state. Consequently the more marked the positive state is the greater will be its effects, and the more striking its peculiarities.

For this reason seedlings cannot be depended upon to produce exactly the same sorts as defective pollen, or a very marked positive state of it, or the pollen from other flowers would produce a different effect. And for like reason different varieties engrafted upon other stocks cannot lose their peculiarities if so engrafted for generations.

It is supposed by some, that the climate and the stock have some influence upon the grafts, and through the course of time they would be acclimated or changed in their character. It is true that they have a modifying influence, but do not change their peculiar characteristics. It is simply as it were a bending, contracting or expanding effect, which may take place in almost any location, by their adaptation and manner of cultivation; yet the types of vegetation remain distinct, even petrification does not change them, for we can there read the records of by-gone ages with unerring certainty.

For instance, to illustrate this subject more fully, every variety has its peculiarity of growth; some are very vigorous and erect, others the opposite, and the formation and growth of their roots are in a corresponding manner.

If we graft those of very opposite tendency on each other, the result will be a modifying influence produced on their habits of growth, in proportion to the vigor and predominating tendency of either, as

the Apple on the Paradise, or the Pear on the Quince.

Likewise of the influence of climate and location, if grown on the open prairie, they would be exposed to continual agitation, and subject to hard and prevailing winds, and scorching sun, which would make them conform to a low branchy, stocky form, and well rooted habit to endeavor to retain their existence under such unfavorable circumstances; while on the contrary, were they grown in a heavy timbered and calm country, it would be the reverse. So of all other conditions in like proportion. The same may be said also in respect to their bloom and fruit.

The climate, propagation, cultivation and attention, may produce them to the greatest perfection, or the reverse. Yet in all these instances, when returned to their native homes and habits they still possess their original peculiarities.

Neither time, climate, propagation or cultivation, or any thing can change the types of vegetation; they carry their identity throughout all ages, at last to give place to a new order, perhaps more congenial to the altered clime.

Yet by the research, industry and perseverance of man, we can produce new varieties better adapted to our various wants, and more congenial to our numerous locations and diversified climate.

BUCKTHORN VS. HONEY LOCUST.

MESSRS. EDITORS:—I am grateful to Mr. D. D. Buchanan, of Reid's Nurseries, for giving me an opportunity to say, that the paper on "Trees and Shrubs of beauty," was sent to the *HORTICULTURIST* without my consent or knowledge. It was written for a local Society, and was not intended for the public. Placed in contrast with the facts presented by Mr. Buchanan, it shows how much care horticultural writers ought

to use, when they undertake to direct the rural embellishments of a country so large as ours.

To one living in Central New York, where the mercury has a trick of dropping down to 20° below zero, Mr. Buchanan's statement that "the *Pyrus Japonica* is the finest deciduous plant for ornamental hedges," reads like a bit of pleasant irony.

Such a hedge would not survive an ordi-

nary winter in central New York, unless protected by deep snow. Nor does the Osage Orange fare any better, and our Privet hedges are often deformed by dead patches.

Not to question Mr. Buchanan's right to speak for the latitude of Elizabeth, N. J., I must still insist that, in Central New York, "for a hedge to turn cattle, we have nothing better than the Buckthorn, and need nothing better." John Jay Smith describes the Buckthorn as "a strong, quick growing plant, that makes a good close hedge; is very hardy, and when properly cut looks extremely well. Its bark and leaf are offensive to insects; and the borer, which has ruined nearly all the thorn hedges in this country, will not touch it. It will grow in the shade, and in most every soil." In Massachusetts, the Buckthorn is considered the most suitable plant for hedges. There, as in Central New York, it vegetates early in spring, and retains its verdure late in autumn. Being a native plant, it is never injured by intense cold; is never girdled by mice; never sends up suckers, and having small, fibrous roots; it is contented with its humble condition in the hedge row.

If your correspondent is anxious to defend the Honey Locust against all attacks upon it, I would call his attention to the 98th page of the first volume of the HORTICULTURIST, where the late A. J. Downing says: "We cannot recommend the three-thorned Acacia, where a really good and permanent hedge is desired. It grows very rapidly, and its foliage is very ornamental; but its habit is so coarse, and its growth so rampant, that it is almost impossible to keep it in due bounds, and form it into a really compact hedge. If only a loose and picturesque barrier is desired, then it will do perfectly well. But if one desires a compact and durable hedge, he had better employ the Buckthorn, or some of our native thorns. Our friend, the late Judge Buel, was quite partial to this plant, and strongly recommended it for hedges. By his persuasions mainly, we planted about 600 feet in excellent soil. The hedge is a flourishing one, but neither trimming, shearing, nor plashing have succeeded in making a close and satisfactory hedge."

Yours very truly,

E. N.

OUR METHOD.—No. IV.

BY PRATIQUER.

ONE of the reprehensible fallacies of grape philosophy is, that the vine is capable of bearing great hardships, and proceeding from this postulate, instructions are apparently given in imitation of the experiments on the capabilities of the horse to live without food, to test the exact amount of ill usage it can endure.

But *cui bono!* Why experiment on its vitality? Why treat it with severity? Will a poor plant thus become a good one? Will a good one be any better for it? Will nipping in the bud develop vigor? Will frequent pinching increase its natural force? Will summer pruning enable it to ripen its fruit earlier and better? Is cutting and

slashing to be the ferule and birch rod to expunge its original sin, and bring it back to the standard of excellence? Can the weakness thus engendered be cured, and vigor restored, with stimulating manures as its "plantation bitters?" We answer emphatically, no! Our method begins with a healthy plant, and applies the "Soothing syrup" of good treatment to produce fundamental vigor. The Indian who plunges his new-born infant through the ice into the cold water of the lake or river, gives as a reason for it, that if it cannot bear hardships, it is not fit to live. Such is not the reasoning of civilization, and we never try it on our children or on young grape

vines. It is a good rule to do nothing to a vine without a motive, and to consider well beforehand if that motive is a useful one, and attainable without injury. Hence, when our vine is young and struggling for existence, we "lay it down softly and care for it tenderly," preferring to encourage instead of checking its progress, while its energies are required to establish a strong constitution. For this reason we only restrict it to one cane, and allow it to grow freely during its first two summers. In this we are at loggerheads with our brethren of the old school, who seem most anxious to bring forth precocious fruit-bearers, at the expense of the health and life of the vine.

"I can," says one of the theorists, "make my grapevine bear more fruit when it is two years and six months old, than it will ever produce in any year afterwards." He should diligently follow up this treatment, by planting new vines, as he does strawberries every year, for by no other means can he secure a succession of crops.

Our method, looking to a communication with posterity through a grapevine telegraph, that our memory may be cherished, proposes to have the old vine "a sure thing in 1870," (S. T. 1860. X.) and long afterwards; therefore we neither pinch it unreasonably, prune it immoderately, or crop it excessively.

The European practice, adopted by our K. G. C's, (knowing grape cultivators) said to be founded on Scripture authority, (see Canticles 2, 15) of pulling off the "little foxes (laterals) that spoil the vines," while it mystifies a beautiful poem, too beautiful for criticism, evinces in its practice but little of the "wisdom of Solomon." Their "vines have tender grapes." Our's are said to be not tender enough, *ergo* they should have different treatment. What we most need is an American system of Grape Culture, including a total reform in summer pruning, confined to removing the secondary shoots from the double bud early in June, and a judicious pinching with the

thumb nail *only* at the extreme ends of the laterals, and even this better omitted than overdone.

The reason why native grapes ripen their best fruit in tree tops and high places, is not because they get the sun, but because they are protected by the foliage, and are beyond reach of experiment; *they cannot easily be tampered with.*

In no case should the lateral be stopped where its leaves are necessary to cover the fruit or to shield the primary leaf, which exposed to the burning rays of a July or August sun in our climate, is liable to sunscald, to turn brown, dry up, and fall off. Whenever this primary leaf is lost the fruit does not ripen. We have a friend who "opened his fruit to the sun," by removing the leaves last September, whose grapes are not ripe yet. Another who boasted that he never saw mildew, did not know what it was. Owing to the scarcity of labor, his laterals grew long and the foliage enormous. He then directed an assistant to cut off the overhanging laterals with a sickle. It was quickly done, as he stated, and in these war times was a great saving of labor; but he has had no ripe fruit, and he both knows and has seen mildew, besides becoming the owner of a worthless vineyard, conducted "on the European plan." Cutting off the rank growth and removing the foliage checks the flow of sap, causing a violent reaction where it cannot be absorbed, and producing disease in the vine, whether old or young.

"Papa," says our little representative of seven summers, "Is every one who raises grapes a Doctor?" What makes you ask that question? "Because, every body who comes to talk grapes with you is a Doctor." "That boy," says his grandmother, looking up from her soldier's stocking, "needs pinching-in. I'll see that you have a dose of pills, when you go to bed to-night, to keep down your animal spirits." How many of our K. G. C's are of grandmother's school of practice? To whose patients the Italian epitaph with a slight alteration would apply: "I was

well—*my friends wanted me to be better*—gave me physic, and here I am." We hold the doctrine, that a healthy subject can brave and endure the hardships of life, with better prospects of surviving than one already feeble.

Our efforts to produce a healthy young vine having succeeded,—for on examination we find that the cane and its laterals are ripened to their very tips, and the buds are bespoken by the propagators, who say they *like that kind of ripe wood for raising new plants*—we now proceed to indicate the treatment necessary to make it bear healthy, sound, ripe fruit, year after year. At the end of the second season, the vine is represented thus, (see Fig. 1) and the same pruned

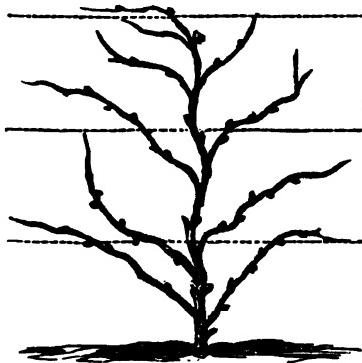


Fig. 1.

down for its third summer's work, thus (Fig. 2). Our K. G. C. tells us that we

His process may be interesting to scientific cultivators, and our friends who are grape hungry may use it on a few vines in the garden, as they would force a pineapple, regardless of cost and of consequences.—Our treatise is for vineyard culture and we can afford to wait. The vine then being cut down to two feet from the ground, or at the first eye above the lower wire, we select three good eyes near the top, for growth the third summer, rubbing out all others, the upper bud is to be trained upward, and allowed to grow with its laterals as before, and may make six or eight feet in length of cane. The two lower buds are to be tied to the lower wire, which we place two feet from the ground. On our trellis we use but three wires two feet apart, instead of the usual five. These lower buds are to form horizontal arms for fruiting in the fourth year, and are to be allowed to grow without stopping; but the laterals are to be once pinched above the third leaf, and then suffered to grow the remainder of the season.

Tying up, and keeping the ground mel-low by cultivation, is our prescription for the third summer. In the third autumn after the sap has performed its offices, and become a portion of the woody fibre, ripe, firm, ready to withstand the vicissitudes of a winter climate, we use the knife, cutting it this time four feet from the ground, and reserving three buds at the second wire to form two more arms and a leader, with the same treatment as before. Our lower arms are now each to be reduced to three feet in length. If the vine will not bear the climate, it may be laid on the ground and covered lightly with earth; enough to hold it there is sufficient. A Delaware may be tied up at once to keep it from swaying about in the wind, and may be exposed to a temperature of 20° without injury.

In the fourth spring we tie up the trunk of the vine to the trellis; the arms on the lower wire are to be disbudded of every alternate bud, reserving those that hang downwards as being most graceful, and al-



Fig. 2.

are behind the age. Next year, he says, you ought to have twenty pounds of fruit.

lowing five or six of the canes on each arm to bear one bunch of fruit, removing all the other clusters when the berries are of the size of small peas, and retaining the finest bunch of the three or four that set on each cane. A grapevine of this age, will over-bear, if allowed to, and we must exercise great self-denial for its future good, the temptation to get thirty bunches of grapes instead of ten is almost too much for human nature to resist; but when we reflect that the one remaining bunch will be of much finer quality, *sure to ripen*, and when ripe, will weigh as much as the whole three, besides that the vine will retain its vigor, and will be able to repeat the exertion, and more too as it grows older, the wisdom of pruning the fruit will be apparent, and we shall be content to take off, at least two clusters out of every three. As we are averse to heading-in the fruit bearing canes, and pinching all through the season, we propose first to try the checking process, by a vigorous twist of the arm, say once in each foot around the wire, securing it at the end with a strong willow tie. If this twist is made in the right direction, it will do much to retard the rapid flow of the sap to the extreme ends of the canes; nourish the fruit thereon, and obviate the necessity of heading them in. All grape growers know that the growth is greatest at the extreme ends, and should know that stopping is unnatural, injurious and productive of no benefit to the fruit. It should therefore be avoided if possible. But we ask our class of readers, which way shall we twist it? The one who answers correctly shall go to the head. Nature has a spiral.—“What is the reason” says old Mr. Phogee, “that my Lima Beans all slip down from the poles, and never bear? Is it because the seed comes from the Southern Hemisphere, where every thing goes by contraries? I am particular to train them *with the sun*,” and he pulls out his antiquated bull’s eye silver watch, to show that the hands go with the sun, or else how could it keep time. But he forgets that the rays

of the sun come down, and that to go up, the engine must be reversed. We advised him to use a corkscrew for a quadrant when he next “took the sun.”

Nature’s upward spiral is from right to left. Keep the left shoulder to the pole, and walk around it. Every young architect should visit the monument erected in memory of Ledyard and his slaughtered companions, at Fort Griswold; ascend the spiral staircase set by a patent lever watch, and built by a mechanic who was left-handed! When we desire to twist a vine to *check the growth*, we go in the opposite direction, pass the cane at the left hand under the wire, then bring it towards you over the wire, while that on the right hand first passes over the wire, then under. If you twist with Nature, you do not arrest, but assist the growth: therefore this should be understood. When the fruit puts out on these arms let it hang downwards; it needs no tying, and shows all the better for it.

This year too, we train a cane to supply the place of the fruiting arm that is to be cut out late in autumn, after fruiting. The new cane to be trained upright from the junction of the arm with the stem, pinch its laterals once, but do not suffer it to fruit, or head it in, as it affords an outlet for all exuberance of growth, and with this treatment the cane is sure to ripen, which is absolutely necessary to its fruit bearing the next year, and indeed for future years.

In the autumn of the fourth year, we cut our vine six feet from the ground, arranging to have but two buds grow for arms on the third wire the following season, while we cut the arms on the second wire to three feet, and subject them to the treatment before indicated, for the arms on the lower wire, while the arms on the lower wire after yielding five or six pounds of grapes, supposing each bunch to weigh half a pound, are to be cut out near the main trunk, and the two canes bent down to take their place after being cut to three feet. These renewals are to take place annually, and each pair of arms are to be allowed to bear ten

or twelve bunches of grapes until the system is established—after which the quantity may be increased gradually to double that amount, whenever in the judgment of the cultivator the vine has strength to bear it—being well assured that it is able to ripen the fruit, and to ripen the canes at the same time.

On the “European plan” of pruning, Native vines overbear the third summer, become enfeebled, do not ripen wood for future bearing, and as the minute spores of the mildew seem to be ever present, and ready to seize on sickly, decaying, or dead plants, it does not make an exception of the vine. We seldom pay any attention to the visits of this one of Nature’s scavengers until the mischief is done, and then begin to enquire: What is the matter? and what is the cure? We think it better to en-

quire, what is the prophylactic? What will prevent it? And our general answer is, avoid the European plan of cultivation; plant only healthy, vigorous vines; do nothing to enfeeble them; do not stimulate them to extra growth; and then try to stop or force it in some other direction. Remember the tight-laced belle, who crowded her waist into her shoulders, and became a hunchback. Do not encourage precocious fruiting; that it may be done is no reason why it should be. Do not stop or cut off growing canes; and yet, every treatise and direction for training the grape vine, present and recommend these glaring fundamental errors.

In short, let us without delay *confess our mistakes*; (all honor to Bright) issue an emancipation proclamation, and adopt an AMERICAN SYSTEM.

FORESTS AND FOREST TREES.—THEIR PRESERVATION, &c.

BY C. N. B.

We feel proud of the natural features of our country, our rivers, our hills and mountains are varied and grand in range and height; our fossil and mineral resources inexhaustible, and intrinsically of the most valuable kinds; our soil productive of the comforts and the most useful of sylvan productions. These natural features correspond with the extent of our territorial bounds and the nobleness and excellence of our civil institutions. The hills, and the mountains, and the rivers, are in the keeping of the Creator, having received the immutable stamp of nature; but the preservation of our forests, like that of our liberty, is obliquitory on ourselves. By a provident care both will live for ages. The venerable grey-headed patriots among us, who appear to be intuitively prescient, point tremblingly and fearfully to the daring and reckless woodman and politician, so sacrilegiously approaching the forests and the constitution of the land.

Placing in such equal importance our liberty and our forests, may seem to some to be over-rating the one and underrating the other; but when it is recollect that we, as expressed by a Roman naturalist, “by the tree we navigate the ocean, cultivate the earth and build our houses; it should not be considered an unpatriotic union.” What would have been our commercial importance and our naval standing among the nations of the earth, had it not been for our forests? Let any one reflect for a few moments on the immeasurable uses to which the tree is devoted, and consider how intimately connected are our comforts and pleasures with its great value and primary importance of our forests; he will see that the least scarcity or advance in price very materially affects every branch of trade and every department of domestic pursuits.

It must be a subject of astonishment to observe the wonderful intermixture and

seemingly inseparable connection between both moral and physical good and evil; to see that the same thing which we at one time dread with abhorrence, at another time, and perhaps under different circumstances, becomes a subject of pleasing admiration. We often hear heart-rending tales of the gloomy forest, in the compass of nature's works surpassing those of the forest.

The emigrant to an unsettled country, looks upon trees as so many savage enemies which he must conquer and exterminate before he can hope for enjoyment of peace and tranquility. When other emigrants settle around him, and they begin to direct their united efforts towards arriving at a state of civilization, they see nothing in their mind's eye but cultivated fields, with meadows and pastures, with all the stumps eradicated, and not a single cluster of trees to interrupt the view. If a single patch is left for fire-wood, it is often sneered at, as it is cheaper to buy wood than to devote the ground to its incumbrance.

But the population increases, perhaps becomes a village or city. The demand for firewood increases, and timber is wanted in all the various departments of ship and house building, carriages and other branches of manufacture, and every patch of forest vanished before the foot-steps of cultivation, like patches of snow before the vernal sunshine, until, as is the case in some parts of this country, every piece of timber has to be brought from a great distance, if not even imported from a foreign country, and coal dug from the earth for fuel.

In this state of things, sober reflection, which though a slow, is often a correct teacher, shows us by costly lessons what it would have taught before, had it been consulted, that if instead of wastefully destroying and exterminating the forest trees, they had been used with prudent economy, when necessary, and skillfully managed and preserved, they might have contributed largely to pleasure and to profit.

But when the folly has been committed and its consequences are beginning to be

sensibly felt, what remedy can be applied, if not to afford immediate relief, at least to prevent posterity from suffering by its effects? The still small voice of common sense, confirmed by the examples of several nations of Europe, points to the remedy. The first step is to apply to some well established nursery where all the most valuable trees could be obtained at moderate prices; a few would avail themselves of their advantages, and the force of example would soon excite the multitude to follow them, and in a few years, those who live to see our dwellings, which now stand as unornamented as milestones, tastefully surrounded by beautiful trees, and their value doubled in the eye of most purchasers; they would see our public roads lined with extensive rows of valuable trees, and last, though not least, our farm houses would be sheltered in their situations from bleak and destructive winds by belts of pine and fir trees, and their cattle and sheep would find protection from the blasts of winter, and places of repose from the sultry summer heat.

The uses of forest trees to which we refer, are for shade, for timber and for fuel. A tree forms part of almost every implement and every machine by which the genius of man has taught him to lighten the labor of his hand.

Of shade trees both for timber and ornament, we have indigenous, a greater variety than any other nation.

Every man of landed property that lies out of arm's length of a village or town, should plant trees. Even an old bachelor, who has no right to become a father, is not only free, but is in duty bound to plant a tree.

People are sometimes prevented from planting trees from the slowness of their growth. What a great mistake that is! a strange fear to feel, a strange complaint to utter—that any one thing animate or inanimate, is of too slow growth, for the nearer to its perfection, the nearer to its decay. Let any one who accuses trees of laziness in growing, only keep out of sight

of them for a few years; and then returning home to them under a cloud of night, all at once open his eyes on a fine sunny summer's morning, and ask them how they have been since he and they mutually murmured farewell! He will not recognize the face on the figure of a single tree. That single maple whose top-shoot, a cow you know, browsed off, to the breaking of your heart, some four or five years ago, is now as high as the gable of the cottage, and is murmuring with bees among its blossoms, quite like an old tree! What precocity!

That elm hide bound, as it seemed to you,

and with only one arm that it could hardly lift from its side, is now a Briarius. Is that the larch you used to hop on? now almost fit to be a mast of one of the cutters or yachts of the Hudson! you thought you would never have forgotten the triangle of the three birches; but you stare at them now as if they had dropped from the clouds! and that birch—that round hill of leaves—is not the same shabby shrub you left sticking in the gravel, why, call the old gardener hither and swear him to its identity on the Bible.

Pokeepsie, April 5th, 1865.

CURIOSITIES OF VEGETATION.—No. II.

AMONG the most remarkable and beautiful specimens of our own vegetation, we may reckon the *Magnolia Grandiflora*. It bears flowers seven or eight inches in diameter, and of a fragrance sufficient to load the surrounding atmosphere with sweets. This superb tree has not unfrequently a straight trunk ninety feet in height, with a fine pyramidal head of foliage and white blossoms.

The *Agave Americana*, when it is fully grown, sends up a gigantic flower-stem, which rises from thirty to forty feet high. The topmost fifteen feet of this stem often bears hundreds of greenish-white flowers, growing at the extremities of branches symmetrically arranged around this huge stalk.

The *Talipot Tree*, peculiar to Ceylon and the Malabar coast, grows to a great height, and sends forth its branchless leaves from its summit. These leaves, when on the tree, are nearly circular, and from thirty to forty feet in circumference, so that ten or a dozen men can find shelter under one of them. They are of a dark green color when expanded, and can be closed and opened like a fan. They are used as a shelter against rain and heat, as a covering for tents, as fans, and as paper. The flower shoots pyramidically above the leaves, and

often adds thirty feet to the height of the tree. It is at first a cluster of bright yellow blossoms, of pungent odor, and bursts from its hard enveloping rind with a sharp noise.

The *Erythroxylon Coca* is a shrub from six to eight feet high, with numerous small white flowers, and greatly resembles a straight-growing black-thorn bush. The leaves are used by the inhabitants of Peru for their peculiar effects upon the nervous system. Masticating the Coca leaf, the Peruvian, when inveterately addicted to this indulgence, remains in the forest for two or three days, heedless of night, or of the tremendous storms that sweep over him. At length he returns home, pallid and trembling, to recover from his intoxication only to yield again to the fascinations of his indulgence, until premature death closes his wretched career. The leaves are chewed with finely powdered lime. The consumption of Coca is universal in Peru.

The *Cerbera Tanghien*, or *Tanghien Tree*, resembles a plum, and is used in Madagascar to detect criminals. Its fruit is a swift and deadly poison. When employed as a test of crime, the accused is made to eat as much boiled rice as possible, and to swallow several pieces of the skin of a

fowl, without masticating them. A quantity of the tanghien nut, mixed with the juice of the banana, is then administered. Curses are then denounced on the person undergoing the ordeal, if guilty. Rice water is given soon after, in copious draughts, till vomiting ensue, and then, if the several pieces of skin are found, the accused is acquitted, but if they are not found, he is condemned. There is plenty of room for jugglery in this ordeal, and the administrators can make it fatal or not, as they please.

The *Antiaris Toxicaria*, or *Upas Tree* of the Indian Archipelago, sometimes attains one hundred feet in height, and eighteen in circumference near the base. It is generally straight, and has a smooth white bark. The fruit is velvety, and not unlike a purple plum. The tree is found in fertile spots, and is not avoided by animals as has been stated, for lizards and insects have been seen upon its trunk, and birds upon its branches. But in clearing grounds near this tree, the inhabitants do not like to approach it because it produces a cutaneous eruption when newly felled. The juice of the Upas is prepared by the natives in a peculiar manner, and used to poison their arrows.

The *Araucaria Imbricata*, of the Patagonian Andes, is thus described by a traveler: "When we arrived at the first araucarias the sun had just set; still, some time remained for their examination. What first struck our attention was the thick roots of these trees, which lie spread over the stony and nearly naked soil like gigantic serpents, two or three feet in thickness; they are clothed in the same rough bark as the lofty pillar-like trunks, which are from fifty to a hundred feet in height. The crown of foliage occupies only about the upper quarter of the stem, and resembles a large depressed cone. The lower branches, eight or twelve in number, form a circle around the trunk; they diminish till there are but four or six in a ring, and are of a most regular formation, all spreading out horizontally, and turned up at the tips.

They are covered with leaves like scales, sharp pointed, above an inch broad, and of such a hard texture that it requires a sharp knife to cut them from the parent branch.

"Its fruits, placed at the end of the boughs, are quite round, and about as big as a man's head, and consist of beautiful layers of scales that cover the seeds, which are the most important part of this truly noble tree.

"A single fruit contains between two and three hundred kernels, and there are frequently twenty or thirty fruits on one tree; and as even a hearty eater among the Indians cannot (except he be deprived of every other kind of sustenance), consume more than two hundred kernels a day, it is easily seen that eighteen Araucarias will maintain a single person for a whole year."

The *Stagmaria Vernicifera*, or Varnish Tree, is a native of the Eastern Archipelago, and attains a considerable size. The leaves are smooth and shining and the flowers white. A resin exudes from the bark, which blisters the skin; this resin soon becomes hard and black, and is sold at a high price for varnish. It is said that this tree produces the famous Japan lacquer.

Trees yielding vegetable soap are found in the tropical parts both of the Old and New World. In the East Indies soapberries are to be bought in every bazaar. The fleathy part of these berries is viscid and assumes a shining, semi-transparent appearance in drying. They form a lather when rubbed with water. The bark and roots of the plants yielding these berries possess similar properties.

The *Croton Sebiferum*, or Tallow Tree, is a native of China, and resembles a pear tree. The trunk is short and thick, the bark smooth, the leaves dark purple, or bright red, and the blossoms yellow. The fruit is contained in a husk which opens when this fruit is ripe, and discloses three white grains about as large as a nutmeg. These yield the vegetable tallow which, when properly prepared, makes excellent candles. There are also tallow trees found in other countries.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

WOODWARD'S GRAPERIES AND HORTICULTURAL BUILDINGS now published and ready for delivery; price \$1.50, post-paid by mail.

This work contains above 60 illustrations of the various forms of Horticultural Buildings, and gives complete practical instructions relative to design, construction, heating, ventilation, &c. A book for everybody who contemplates erecting glass structures and extending their enjoyment of Horticultural pursuits.

DEATH OF DR. GEO. PEPPER NORRIS.—We regret to learn of the death of this distinguished horticulturist, which took place at his residence near Wilmington, Del., on the 7th of March, of typhus fever, contracted in discharge of his medical duties, in the early prime of manhood, amid the regret and sorrow of the community in which he lived. Dr. Norris is well known to many of our readers as a frequent contributor to the *Horticulturist* on "Orchard House Culture," "Cold Graperyes," &c., and has done much to make them popular.

FRUIT BOXES.—Those who raise the small fruits for the great markets of New York, Philadelphia, and other large cities, have long felt the need of a low-priced box that shall serve the purpose of transporting the fruit, and that may be sold and delivered with its contents; and the consumer here who, oftentimes, buys fruit only when he sees it, has wished for some convenient manner by which he can carry it home. What is true of everything else in New York is equally true in regard to fruit.

Let the quality be fine, and the appearance magnificent, and it matters little what the price may be. Strawberries, or berries of any kind, put up in neat clean boxes of reliable measure, sent to this market and sold with the box, will pay the producer a better profit, box and contents, than the same fruit marketed in a stained, sour, filthy box, that all the season through is an annoyance and a loss to the grower, by breakage, miscarriage, expenses of return, and many other misfortunes.

We have received from Mr. Edmund Morris, of Burlington, N. J., author of "Ten Acres Enough," and of several admirable articles in our own columns, samples of a fruit box of his own invention, pint and quart, which admirably solves this hitherto intricate problem. Compact packing, ventilation, strength and low price are fully provided for, and as Mr. Morris is a practical man in the berry business, he knows precisely what is wanted, and we believe has fully met the want. They are so contrived that they may be packed "in the flat," by which great numbers occupy little space, and can be forwarded cheaply to any part of the country, when they are readily put together by any member of the family. We understand arrangements have been made to manufacture them in large quantities. Those who are interested in such matters can see samples at this office.

THE article on "*Growing Cranberries*," in our last number, credited to the *German-town Telegraph*, first appeared in the *Boston Cultivator*, the editor of which prepared the article with much care, and after a personal visit.—"Honor to whom honor is due."

RAISING SEEDLINGS.—"Affected two or three years with the grape fever, and never saw the *Horticulturist* till last January." Prodigious! can it be possible? Here at least is an honest man, and I offer him my hand grapeiously.

I am an old admirer and reader of your journal, and have added many subscribers to your list, *con amore*, but in all my solicitations I have never found a man who would acknowledge that he never *saw* it. All read it. Most of them *took* it, and thought it a "good thing." "But," says I, "you have not seen the May number? you know my facilities, etc., and I have brought it over to show you the marvelous improvements of Lackland's house," and thus I come away with the \$2.50 each from X. and Y., which is herein inclosed. It is rather mortifying to think that an individual on the frontier (none of my neighbors would do such a thing: they are all "honorable men") should pay over his money so readily, because he was caught in a *suppresso veri*. But to the point. If Dr. Merrick lived ten miles from here, instead of several hundred, I would furnish him with thousands of young grape plants—Isabella, Catawba, Concord, Creveling, *& id omne genus*. They spring up all over my grounds—in the grape-house, hot beds, and in pots—or wherever I use compost. Last fall, when I made my wine, I directed that the marc should be placed on my compost-heap. It was afterwards turned over, and became thoroughly incorporated, exposed to the frosts of winter, and thus prepared to vegetate with the early warmth of spring. Hence the young seedlings, so abundant as to have become absolute weeds to be hoed up. Judging from my own experience, the seeds all grow—not here and there—but everywhere at once. I have planted grape-seeds of many sorts, and whole grapes in pots, with bottom heat and otherwise. In 1863 I had five seeds germinate. In 1864, none. In 1865, thus far, one!

Hopefully yours,

WILLIE MAY.

near Dover, Del., May, 1865.

THERE will not be more than a fourth of a crop of Peaches in this (Kent) county, and this is the great peach-growing part of the State. I have had the Delaware grape from about the first, and it has given me a crop of nice fruit every year—and so has the Concord and Hartford Prolific. I have tried all the new kinds that have been sent out for several years, and find them worthless, except those above named. I fruited the Bland or Powell last year, and to my taste consider it better than any of the new grapes, and it is more sure here than Catawba or Isabella. I see the wise grape-men say that Union Village and Ontario are the same. Not so with me—quite different—but bad.

Yours,

P. H.

BUFFALO, April 17, 1865.

MESSRS. WOODWARD:

I have a peach farm in Delaware, and our great want there is a suitable apparatus for drying fruit. Can you say or do anything on this head in your May number?

N. A. H.

[Will some one give the needed information.—Eds.]

THE CENTRAL PARK.—On visiting the Central Park, early in May,—our first visit since the opening of the Spring,—we were struck with the evidences of the severity of the past winter, especially as it affected the evergreens, of various kinds. The tender wood and sprays of the Pine and Spruce tribes seem to have been essentially damaged by the frost, and many of the finest of these trees were as brown and sere as if they had just passed through a severe latter summer drought. We have since noticed the same effects upon the evergreens scattered throughout the city, and particularly upon the English Ivy upon the walls of several of our city churches and private dwellings.

The evergreen trees will gradually recover, but it will be some weeks, perhaps, be-

fore they will regain their usual healthy and luxuriant appearance, while their annual growth will undoubtedly be diminished by these damages. The Ivy has, in many places, been partially killed, down to the roots, and will be forced to make new wood. It would seem that the past winter has been unusually severe in this respect.

ROBERT HERRICK was a lyric poet of great eminence, who lived in the seventeenth century, in the time of Charles the First. We lately came across the following sweet and tender lines which we copy for our readers.

THE DAFFODILS.

Fair Daffodils, we weep to see
You hasten away so soon ;
As yet the early rising sun
Has not attained his noon.
Stay, Stay,
Until the hastening day
Has run
But to the even-song ;
And having prayed together, we
Will go with you along !
We have short time to stay as you ;
We have as short a spring ;
As quick a growth to meet decay
As you or anything ;
We die
As your hours do ; and dry
Away
Like to the summer's rain,
Or as the pearls of morning dew,
Ne'er to be formed again.

PESTS OF THE FARM.—It is not weeds, worms, blight, nor bug, that prove the greatest pests of the farm. Even a sheep-killing dog can be endured once in a while. Book peddlers and subscription agents are mild pests, compared with some of the tree peddling variety. The West has been terribly afflicted in this respect. The veriest trash of Eastern nurseries has been sold as first-class, at first-class prices. But that is not the worst of it. A farmer subscribes for a Delaware grape-vine, gets one so labeled, which, after nursing three years, proves to be the most worthless thing in the whole catalogue. At the present time the farmers of Vermont are being fleeced

by scoundrels who are selling apple trees grafted upon crab stock, warranted to withstand the Winter and all the diseases that have killed off orchards in that State, and to produce marvelous crops of apples upon these "dwarfed trees." The white willow humbug has drawn a quarter of a million dollars out of farmers' pockets into those of the peddlers.

Another most prolific pest is him of the patent churn: a machine with crank and wheels, and paddles and air tubes, that will convert the entire milk into butter and give more pounds than were put into the butter mill, and of vastly a better quality than any other contrivance yet invented. The farmer, tired of the old dasher, buys the thing of cranks and wheels, gives it a patient trial and consigns it to the garret or some other old lumber receptacle. Our advice is, whenever churning are offered that will make butter in three minutes and some odd seconds, that it would be the safest plan to consign them to the lumber hole without trial.

The wine plant man is another pest that farmers should set the dogs upon, the moment he opens his mouth. He has nothing in this world to sell you, except some toes, or offsets of the rhubarb, or pie-plant roots, which you have already growing in your garden, and which you may increase by propagation to any desirable extent, if you desire to grow the stalks for the purpose of making a beverage by courtesy called wine. It is no better wine than you can make of the acid juice of any fruit, and there is nothing that we know of that is used for this purpose that does not make a healthier drink than this notorious "wine plant." The reason is that the acid of rhubarb stalks is oxalic; of grapes, tartaric; of apples and tomato, malic; of currants, gooseberries, raspberries, strawberries, citric and malic combined. All of these acids are more wholesome than oxalic. The only really wholesome wine is pure grape juice. The next most wholesome beverage is pure juice of sound apples, well

fermented and corked tight to prevent it from passing into ascetic acid, which, although not unwholesome in small quantities, as we use vinegar, would be so if taken in quantities as cider and wine is drank. So with wine made of rhubarb juice—water, oxalic acid and sugar—fermented until the sugar is converted into alcohol, may be used in moderate quantity without serious injury; but if drank freely as grape wine or cider, the effect would undoubtedly be deleterious. It will be the same with all the other concoctions of fruit juice and sugar. Let them be used in great moderation, or they will prove pests of the farm.—*Tribune.*

STRAWBERRIES.—Three great traveler's dishes of strawberries are in my mind.

The first was at an inn in the quaint Dutch town of Broek: I can see now the heaped dish of mammoth crimson berries,—the mug of luscious cream standing sentry,—the round red cheese upon its platter,—the tidy hostess, with arms akimbo, looking proudly on it all: the leaves flutter idly at the latticed window, through which I see wide stretches of level meadow,—broad-armed windmills flapping their sails leisurely,—cattle lying in lazy groups under the shade of scattered trees; and there is no sound to break the June stillness, except the buzzing of the bees that are feeding upon the blossoms of the linden which overhangs the inn.

I thought I had never eaten finer berries than the Dutch berries.

The second dish was at the Douglas Hotel in the city of Edinboro'; a most respectable British tavern, with a heavy solid sideboard in its parlor; heavy solid silver upon its table; heavy and solid chairs with cushions of shining mohair; a heavy and solid figure of a landlord; and heavy and solid figures in the reckoning.

The berries were magnificent; served upon quaint old India-china, with stems upon them, and to be eaten as one might eat a fig, with successive bites, and successive dips in the sugar. The Scotch fruit

was acid, I must admit, but the size was monumental. I wonder if the stout landlord is living yet, and if the little pony that whisked me away to Salisbury crag, is still nibbling his vetches in the meadow by Holyrood?

The third dish was in Switzerland, in the month of October. I had crossed that day the Scheideck from Meyringen, had threaded the valley of Grindelwald, and had just accomplished the first lift of the Wengern Alp—tired and thirsty—when a little peasant girl appeared with a tray of blue saucers, brimming with Alpine berries—so sweet, so musky, so remembered, that I never eat one now but the great valley of Grindelwald, with its sapphire show of glaciers, its guardian peaks, and its low meadows flashing green, is rolled out before me like a map.

—*My Farm of Edgewood.*

THE OLD ORCHARDS.—It saddens the thoughtful man who travels through the country—especially the older settled sections—to see the grand old orchards, which have furnished the cellars of the old homesteads with cider and fruit from the early time, dying of old age, with no thrifty young orchards about them—to see the broken limbs, the dying and dead trunks, the scarred and diseased veterans passing away with no young recruits coming after to make glad the succeeding generation.

What can the old folks be thinking about? What are the middle-aged inheritors of the old homestead or its old orchards, sleeping over, that they neglect a positive duty, (to say nothing of the profitable investment of family funds,) to their children? Is it the selfish spirit which has possession of you—the spirit which says, “The old orchard will furnish fruit as long as I live, let my children take care of themselves?” Then you do not deserve the ministrations of the young in your old age, when your eyes grow dim and your limbs palsied. No, no, we can not believe that it is positive indifference to the welfare of your children. But is not the thoughtlessness which permits the old

orchard to die without supplying their places with young ones criminal? Is there any feature of a homestead to which are attached so many pleasant associations as to the Orchards? It is the paradise of the young and the delight of the old. Each tree has its associated event. The fruit of each tree has impressed its outline and flavor, its texture and color, upon your boy, and he recalls these peculiarities as he turns the prairie furrow, crushes quartz in California, traffics with the Japanese, or fights for the Union in our armies. How strong a knot has the old orchard tied in his heart, binding him to the old home and the hearts that dwell there. The birds sing to him out of the orchard. The May-blossoms breathe their fragrance into his nostrils—the Spitzenergs and Pippins, the Harvest Boughs and Greenings, and the peculiar and luscious "natural fruit," that grew on a seedling too good to graft, laugh at him as they show their cheeks from behind their emerald screens—and oh! how he longs to visit the home of his childhood and live over again the days of his youth. Such is our inheritance, reader! Such the patrimony which comes down to us from the orchards of our fathers, no matter where we may be settled, or where we may wander. Would we part with this birthright? Would we deprive our children of it?—or our children's children? If not, new orchards must be planted. The old ones are passing away.

As we wrote in the outset, it is saddening and astonishing that people who have lived so long in the world and enjoyed the fruit of their labors, and of the labors of their fathers, should be so indifferent to this matter of renewing the orchard. It is the season to prepare for next spring's planting. The young men who have asked us how to prepare land for orchard planting may now do this work well. Plow and subsoil the land to be occupied, thoroughly. Do not forget—*subsoil* it. Let it lie until spring and again plough it, (or pulverize it in some manner,) manure it with good compost

thoroughly incorporated with the soil, if it needs it, and then plant. Don't plant a young orchard in the sod. Do not allow any sward to make around your trees so long as you and they live. Cultivate them as you do corn and they will yield you far greater profit in proportion to the labor bestowed.

But the object of this article is to impress the importance of providing substitutes—young, healthy, and full of vitality—for the maimed, scarred and dying veterans in the old orchards.—*Rural New Yorker.*

SUMAC.—ITS USE, VARIETIES, PRODUCTION AND VALUE.—CAN IT BE PROFITABLY CULTIVATED?—"Why cannot we raise our own Sumac?" asks *The Gardener's Monthly*. Sure enough, why not? It says that Sicilian Sumac has lately been "\$250 a tun, and scarce at that."

"The species from which the sumac of commerce is obtained is a native of the south of France and the Mediterranean coast—the *Rhus coriaria*, or leather sumac of the botanists. We do not know that the plant has ever been tested to endure our climate. If it has been introduced here it is not in any collection of trees we know of now, which would indicate that it will die out, and is unfit for our climate. So many things from the Mediterranean live here, that one would suppose there would be no difficulty with it; but the *Rhus* family is a capricious one in this respect. The *Rhus cotinus*, from Central Asia—the common mist tree of our gardens—is quite hardy in our severest winters; while the *Rhus succedaneum*, from a part of Japan, whence we get so many hardy things, will not live here in quite mild seasons. It is worth while for some one in the leather interest to reimport some seeds, at any rate, and try the leather sumac fairly.

"Our *Rhus* family ought to have a good overhauling about their economic uses. All over the globe they have been turned to good account. Other countries have but a few species compared with ours. We have

ten distinct species in the United States, besides many varieties.

"The mist tree, heretofore referred to, has wood which dyes of a beautiful yellow color. This wood is, in the 'drug language' of Europe, 'young fustic'—the true fustic being allied to our osage orange. The 'mist' of the tree, while yet succulent, is very astringent, and might be turned to useful purposes. The celebrated Japan varnish is made from the *Rhus vernicifera*; but it is now clearly ascertained that this tree is nearly identical in all its properties with the *Rhus venenata* of our country,—the Poison-Ash, or Swamp Sumac, too well known to many of us by its virulent properties, and the more likely on this account to be of vast service when turned to proper uses.

"The *Rhus typhinum* (Stagshorn Sumac) has actually been employed for tanning purposes in times past; and that it has fallen into disuse is, we imagine, only that the foreign product of *R. coriaria* could be imported cheaper than our own could be collected. Though spread over the whole United States, from Canada to Florida, it is not abundant, we believe, in any one locality; but, as it will grow in the poorest waste places, among rock, stones, etc., where little else will, if found to be what is wanted, it would be a good paying crop to grow.

"The common dwarf Sumac, which is so abundant over the whole Union, on every barren hill and rocky glen, and which gives our landscape scenery, in the fall, such renowned and matchless beauty, is the *R. glabra*, or *R. elegans*, of some old botanists. This has also been employed in tanning; but not, we believe, so effectively as the others,—careful experiments might find it more useful than now supposed. Other economic uses might be found for this plant besides tanning purposes. A beautiful black ink-like tincture can be made from the wood boiled with the berries; and from the berries themselves, a beautiful red dye can be prepared. The acid contained in

the berries is supposed to be bimalate of lime.

"*Rhus copallina*, or Copal Rhus, by its name might be supposed to have some relation to the varnish producing species; but we are not aware that it is particularly favored in this way, and suppose its name is rather in reference to its shining leaves, which appear as if varnished. It may be worth looking after, however, by those disposed to investigate the virtues of the Rhus family. By the way, we may here correct one of the hundreds of errors in Wood's, otherwise very useful 'class book.' He says, *Rhus pumila*, of Michaux, is from one to two feet high; and that *R. copallina* is not 'half the height' of *C. pumila*. The Copal Rhus in low rich grounds grow from eight to ten feet high; and in the dry, poor sandy soils of New Jersey, where it abounds, it is usually from two to four feet.

"The whole tribe is rich in gums. The celebrated 'Hog Gum' of West India Islands, is from *Rhus metopium*, and the Japan Wax is from *Rhus succedaneum*,—both too tender for the Middle States; but will no doubt 'come into play' when the labor question in the Southern States has full play to develop itself.

"Probably the *Rhus aromatica* of the South-western States, and the *Rhus laurina* of California, will also prove profitably ceriferous,—but we can merely throw out the hint."—*Tribune*.

"FACTS ABOUT PEAT," a neatly-printed work in paper covers, by T. H. Leavitt, published by Leavitt & Hunnewell. Boston: Price one dollar.

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PRUNING THE PEAR TREE.

THERE is no end to the questions put to us on this subject. In these days, when every proprietor, from a half acre and upwards is interested in the culture of the pear, either as a grower for the market, or as possessing some half dozen pets which he tends for his own gratification, there is a constant inquiry as to "how shall I prune?" "what is the best shape for a pear tree?" "is there danger in pruning a young tree too severely?" "at what season should pruning be done?" and a host of like pertinent questions. Most of the books in our language which treat on Horticulture, give, or pretend to give, some instruction on the subject; but it is a very difficult subject to bring home to the comprehension of the amateur. It is a branch of knowledge acquired only by considerable experience and practice; and in fact it is a rare thing to find either among our nurserymen, professed gardeners, or amateurs, one who is thoroughly posted in this particular.—Every one prunes, and every one thinks he

knows how to prune, but beyond doubt there is a great deal of very bad pruning, and a want of proper knowledge is the rule, the exceptions so rare as to give abundant proof thereof.

For the purpose then of answering these many inquiries, and to give a standard article of instruction on the subject, we have thought best to refer to a writer whose reputation as authority stands very high, and who gives his instruction with more detail and perspicuity than any other within our knowledge. We have taken the liberty of translating and appropriating bodily from the work of M. A. Du Breuil, entitled "Cours Elementaire D'Aboriculture," a chapter on the pruning of the pear, and particularly the "pyramidal pruning," which, in his judgment, as also in our own humble one, is the shape best suited to the pear tree.*

* The cuts illustrating this article we have at considerable expense, and with great care re-engraved from the originals in the work above-named.



FIG. 447.

PRUNING OF THE PEAR IN THE PROPER PYRAMID SHAPE.

It must be borne in mind in the first place, that the flower buds of the pear only appear on the least vigorous parts of the tree; that they start directly from the principal ramifications, or from vigorous branches which have been mutilated, on

shoots, or in fine, on little spurs; that these rarely fruit during the year which follows that of their formation; that they do fruit sometimes in two years, but usually in the third year; that at first the flower bud is placed at the extremity of a little support which is successively lengthened, and which takes the name of *lambourde*,* (fig. 465);

FIG. 465.—*Lambourde*.

that this lambourde at first simple, branches after the fruiting of the primitive bud, and that it can thus yield annually, and for an indefinite time new fruit, provided it is not allowed to become exhausted by over fruiting, or by the diversion of the sap to other parts of the tree.

It is a great point then while giving shape to the tree, at the same time to force the development of these lambourdes of which we have just spoken, throughout the extent of each of the branches, and to make sure of the alimentation of the lambourdes by a sufficiency of sap; to prevent in short the development of useless growth, which would cause a confusion, and absorb a part of the sap which should go only to the formation of the structure and the fruit branches. This much premised, let us make application of the same to the formation of a pear tree into a pyramid.

One rarely meets in the nurseries with young trees well suited to form pyramids. You find either grafts of a year old, often too weak to receive a first pruning, (fig. 467) or else grafts of two or three years old, which show at their base none of those

* *Lambourde*.—We have no word answering exactly to this, and as it is used technically throughout the article, we prefer to keep to the original.

branches indispensable to commence the formation of these trees (fig. 468).

When you have but to choose between these two sorts, it is best to give the preference to grafts of one year; the stalks less hardened towards their base will develop more readily the necessary buds.

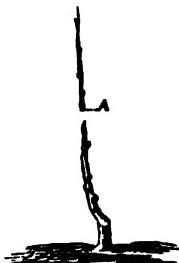


FIG. 467.—First Pruning.

After having planted them with the care which we have elsewhere prescribed, avoid giving to these trees a first pruning during the same year of their planting; wait until the following year. This first pruning would have the effect to deprive them of a number of branches, and in consequence, of the buds which they carry; and the mass of leaves which they might have developed would thus be greatly diminished. The roots would then develop less, would take less hold in the soil, and the final result would be, that the shoots, the growth of which you desire to promote by this pruning, would be weak, puny and little adapted to commence with the structure of the tree.

In waiting, on the contrary, to the following year, the tree will have become rooted anew. If now, you suppress a large portion of the branches, the sap, abundantly supplied by the roots, will react with force on the evolution of the buds reserved, and you will obtain during the first summer longer shoots than you would have in two years by following the first mode of operating. You thus find yourself placed under much more favorable circumstances to give to the structure a proper shape, and you gain time besides.

Nevertheless, if the roots of the young trees were injured to any degree, you should shorten in the branches in proportion to the mutilation the roots have undergone, so as to maintain an equilibrium between them and the trunk. The same shortening in should be practised, in case the young trees should present any very long branches, which offering full play to the wind, would shake the roots and prevent them taking proper hold; but it is readily seen that these shortenings are very different in their effects from those of a first pruning.

These observations equally apply not only to the pear tree subjected to other shapes, but in fact to all other fruit trees, with the exception of the peach.

First pruning.—This operation which is the same for grafts of one or two years old, and for young trees badly shaped in the nursery, consists in cutting the trunk at about 0m. 60* from the ground, at A, (figs. 467, 468).

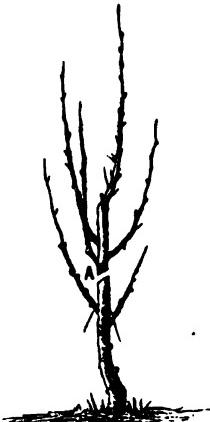


FIG. 468.—First Pruning for young trees badly formed.

The object of this pruning is to induce the appearance of vigorous buds, destined to form the first ramifications from the base of the pyramid.

* The French metre is equivalent to 39.38091 U. S. inches, this would be somewhere in the neighborhood of 34 inches from the ground—we reduce to inches the other measurements given.

These ramifications to the number of six or eight, should be at equal distances from the top, to within about 12 inches from the ground. If you preserve a greater number you would have to draw them in more by shortening, and the little branches which would start from them, would not permit the light, indispensable to the fruit to penetrate to the centre of the tree.

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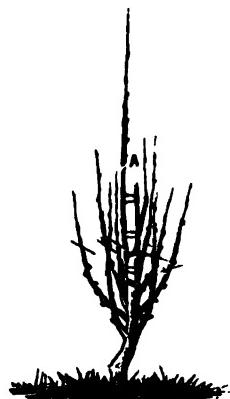


FIG. 469.—Second Pruning.

If, as it sometimes happens among the *latent buds*, several shoot from the same point, you should keep but one. The shoots which these buds would produce would result in a confusion; and moreover if you wished to make branches of any of them, you would sooner or later find one become more vigorous than another.

In short you should watch with the greatest care that the lateral shoots preserve among themselves an equal degree of vigor. If one among them presents a disproportioned growth, pinch off its herbageous extremity so as to retard its vegetation.

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and tidy, who knows enough of flowers not to hoe up any of her choice annuals, whose seeds she dots about in all directions, marking the places with fragments of twigs thrust in at all possible angles; she wishes moreover a good-natured man, who shall be willing to come and pot a flower for her at a moment's notice; one who will not forget

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The best of implements are provided, and a great stock of garden seeds—the choice of the latter being determined on after

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Lackland provides frames and glass for the early salads he covets so much, and Patrick, with the fresh sweepings of the stables, has presently a bed all a-steam. At the mere sight of it the Lacklands regale themselves with thoughts of crisp radishes, and the mammoth purple fruit of the egg-plants. The seeds are all put in—early cabbage, cauliflower, peppers, radishes—under the same frame by the judicious O'Donohue. The cabbages and the radishes come forward with a jump. Their expedition forms a pleasant theme for the physiological meditation of Lackland. He is delighted with the stable manure, with the cabbage seed, and with the O'Donohue. He is inclined to think disrespectfully of the seed of peppers and of egg-plants in the comparison. But the bland O'Donohue says, "We must give 'em a little more hate."

And after some three or four days, Lackland is stupefied, on one of his visits to his hot bed, to find all his fine radishes and cabbages fairly wilted away; there is nothing left of them but a few sun-blackened stumps; the peppers and egg-plants show no signs of germination.

"What does all this mean?" says Lackland; "the cabbages are dead, Patrick."

"Yis, sir—it's the hate, sir. The sun is very strong here, sir; we must give 'em a little more air, sir."

And they get the air—get the air (by a little forgetfulness on the part of Patrick) night as well as day; the peppers and egg-

plants, after a fortnight more of expectation, do not appear.

"How's this, Patrick? no start yet."

"And are ye sure the seed's good, sir?"

"It's all Thorburn's seed."

"Then, of course, it *ought* to be good, sir; but, ye see, there's a dale o' chatery now-a-days, sir."

In short, Lackland's man Patrick is a good-natured blunder-head, who knows no better than to submit his young cauliflowers, and peppers, to the same atmospheric conditions in the forcing frame. The result is that Lackland buys his first salads in the market, and his first peas in the market, and his first beets in the market. All these creep along very slowly under Patrick's supervision, and the onion seed is fairly past hope, being buried too deep for the sun to have any influence upon its germinating properties.

"But how is this," says the long-suffering Lackland, at last, "our neighbors are all before us, Patrick?"

"Well, sir, it's me opinion that the land is a bit cowld, sir. Wait till July, sir, and you'll see vigitablees."

And Patrick grubbs away with a great deal of misdirected energy—slicing off, in the heat of his endeavor, two or three of Mrs. Lackland's choicest rocket larkspurs; whereupon that lady comes down upon him with some zeal.

"Larkspur! and that's a larkspur, is it, m'am (scratching his head reflectingly)? and, begorra, I niver once thought 'twas a larkspur. Pity, pity; and so it was, indade, a larkspur? Well, well, but it's lucky it wa'n't a rose-bush, m'am."

And yet the good-natured blunder-head in the shape of a gardener is far more endurable, to one thoroughly interested in country life, than the surly fellow who, if he gives you early vegetables, resents a suggestion, and who will take a pride in making any particular scheme of the proprietor miscarry by a studied neglect of its details.

Upon the whole, I should lay down as

sound advice for any one who, like Lackland, is beginning to establish for himself a home in the country that shall be completely enjoyable, the following rules with respect to the pursuit and employment of a gardener.

First, if your notion of country enjoyment is limited by thought of a good place where you may lie down under the trees, and frolic with your children, or smoke a pipe under your vine or clambering rose-tree at evening—find a gardener who is thoroughly taught, and who can place upon your table every day the freshest and crisppest of the vegetables and fruits of the season, leaving you no care, but the care of bills for superphosphates and trenching. If you stroll into his domain of the garden, take your walking-stick or your pipe there, if you choose—but never a hoe or a pruning knife. Joke with him, if you like, but never advise him. Take measure of his fitness by the fruits he puts upon your table, the order of your grounds, and the total of your bills. If these are satisfactory—keep him: if not, discharge him, as you would a lawyer who managed your case badly, or a doctor who bled or purged you to a sad state of depletion.

If, on the other hand, in establishing a country home, you have a wish to identify yourself with its growth into fertility and comeliness, in such sort that you may feel that every growing shrub is a little companion for you and yours—every vine a friend—every patch of herbs, of vegetables, or of flowers, an aid to the common weal and pleasures of home, in which you take, and will never cease to take, a personal interest and pride—if all this be true, and you have as good as three hours a day to devote to personal superintendence—then, by all means, forswear all gardeners who come to you with great recommendations of their proficiency. However just these may be, all their accomplishments, ten to one, will be only a grievance to you. It is far better, if you be really in earnest to taste ruralities to the full, to find some

honest, industrious fellow—not unwilling to be taught—who will lend a cheerful hand to your efforts to work out the problem of life in the country for yourself.

You will blunder; but in such event you will enjoy the blunders. You will burn your young cabbages, but you will know better another year. Your first grafts will fail, but you will find out why they fail. You will put too much guano to your sweet corn, but you will have a pungent agricultural fact made clear to you. You will leave your turnips and beets standing too thickly in the rows; but you will learn by the best of teaching—never to do so again. You will buy all manner of fertilizing nostrums,—and of this it may require a year or two to cure you. You will believe in every new grape, or strawberry,—and of this it may require many years to cure you. You will put faith, at the first, in all the horticultural advices you find in the newspapers,—and of this you will speedily be cured.

In short, whoever is serious about this matter of taking a home in the country (if his rural taste be a native sentiment, and not a whim), should abjure the presence of a surly master in the shape of a gardener, who can tell him how the Duke of Buccleugh (or any other) managed such matters.

God manages all of nature's growth and bloom in such way, that every earnest man with an observant eye can so far trace the laws of His Providence, as to insure to himself a harvest of fruit, or grain, or flowers. And whatever errors may be made are only so many instructors, to teach, and to quicken love by their lesson.

Let us not then despair of our friend Lackland, though his cabbages are burnt and his beets are behind the time. I shall visit him again, and trust that I may find his verbenas and lilies in bloom, though his larkspurs have been cut down.

Edgewood, June 2d, 1865.

HINTS TO ORNAMENTAL PLANTERS.

BY A. D. G.

If one may judge from his own experience, more is often learned by careful attention to "hints" in gardening than from elaborate treatises on the subject. The hint is generally the result of experience or observation, and suggests something really useful. Many who read the ponderous octavos of Loudon, and Mackintosh and Downing, get only general principles from their study; but when they mingle with intelligent gardeners, or visit fine country places, they get ideas which can at once be reduced to practice. The hints to beginners, which the pages of the *HORTICULTURIST* have so often presented to their readers, constitute some of its most valuable matter.

— It is a mistaken notion that a lawn should be *large*. If of great extent, it lacks

simplicity and home-likeness. It should be a cozy nook rather than a broad, open expanse. A large extent of surface is expensive to make and keep, and can hardly be maintained in that perfect order which is one of the great charms of a lawn. It should be large enough to show a few fine trees to advantage—their masses of foliage floating in the air, and their shadows stretching across the velvet turf; large enough for a wavy belt of shrubs on its borders, and running out, here and there, into the grass; large enough for children to romp and roll over it; but not large enough for a grove of trees to be planted upon it, nor for the review of a regiment of soldiers. It should be just large enough for the owner to keep it entirely free from weeds, its grass

JULY, 1865.

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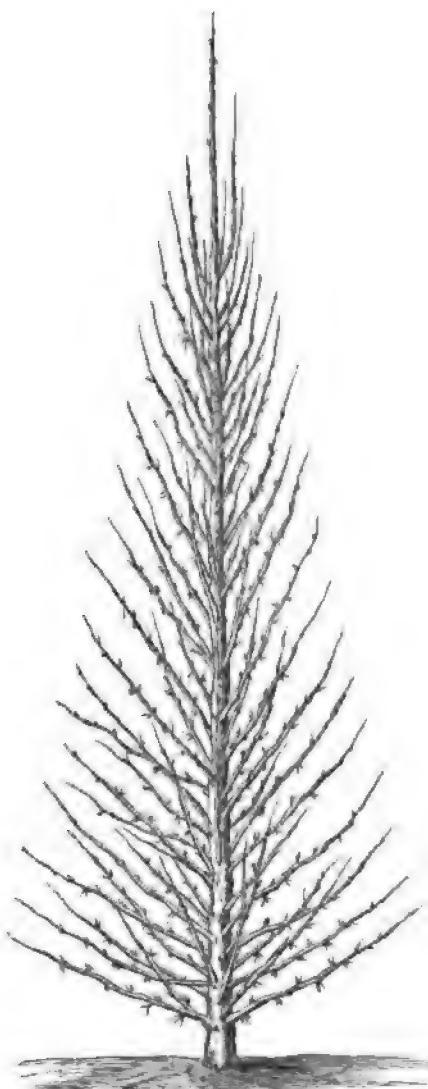


FIG. 447.

PRUNING OF THE PEAR IN THE PROPER PYRAMID SHAPE.

It must be borne in mind in the first place, that the flower buds of the pear only appear on the least vigorous parts of the tree; that they start directly from the principal ramifications, or from vigorous branches which have been mutilated, on

shoots, or in fine, on little spurs; that these rarely fruit during the year which follows that of their formation; that they do fruit sometimes in two years, but usually in the third year; that at first the flower bud is placed at the extremity of a little support which is successively lengthened, and which takes the name of *lambourde*,* (fig. 465);

FIG. 465.—*Lambourde.*

that this lambourde at first simple, branches after the fruiting of the primitive bud, and that it can thus yield annually, and for an indefinite time new fruit, provided it is not allowed to become exhausted by over fruiting, or by the diversion of the sap to other parts of the tree.

It is a great point then while giving shape to the tree, at the same time to force the developement of these lambourdes of which we have just spoken, throughout the extent of each of the branches, and to make sure of the alimentation of the lambourdes by a sufficiency of sap; to prevent in short the development of useless growth, which would cause a confusion, and absorb a part of the sap which should go only to the formation of the structure and the fruit branches. This much premised, let us make application of the same to the formation of a pear tree into a pyramid.

One rarely meets in the nurseries with young trees well suited to form pyramids. You find either grafts of a year old, often too weak to receive a first pruning, (fig. 467) or else grafts of two or three years old, which show at their base none of those

* *Lambourde*.—We have no word answering exactly to this, and as it is used technically throughout the article, we prefer to keep to the original.

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PRUNING THE PEAR TREE.

THERE is no end to the questions put to us on this subject. In these days, when every proprietor, from a half acre and upwards is interested in the culture of the pear, either as a grower for the market, or as possessing some half dozen pears which he tends for his own gratification, there is a constant inquiry as to "how shall I prune?" "what is the best shape for a pear tree?" "is there danger in pruning a young tree too severely?" "at what season should pruning be done?" and a host of like pertinent questions. Most of the books in our language which treat on Horticulture, give, or pretend to give, some instruction on the subject; but it is a very difficult subject to bring home to the comprehension of the amateur. It is a branch of knowledge acquired only by considerable experience and practice; and in fact it is a rare thing to find either among our nurserymen, professed gardeners, or amateurs, one who is thoroughly posted in this particular.— Every one prunes, and every one thinks he

knows how to prune, but beyond doubt there is a great deal of very bad pruning, and a want of proper knowledge is the rule, the exceptions so rare as to give abundant proof thereof.

For the purpose then of answering these many inquiries, and to give a standard article of instruction on the subject, we have thought best to refer to a writer whose reputation as authority stands very high, and who gives his instruction with more detail and perspicuity than any other within our knowledge. We have taken the liberty of translating and appropriating bodily from the work of M. A. Du Breuil, entitled "Cours Elementaire D'Aboriculture," a chapter on the pruning of the pear, and particularly the "pyramidal pruning," which, in his judgment, as also in our own humble one, is the shape best suited to the pear tree.*

* The cuts illustrating this article we have at considerable expense, and with great care re-engraved from the originals in the work above-named.

These ramifications to the number of six or eight, should be at equal distances from the top, to within about 12 inches from the ground. If you preserve a greater number you would have to draw them in more by shortening, and the little branches which would start from them, would not permit the light, indispensable to the fruit to penetrate to the centre of the tree.

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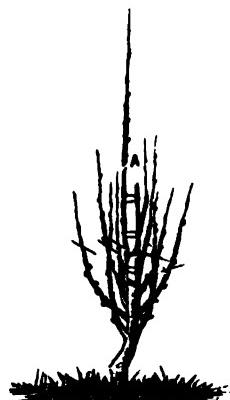


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family consultation, in which all the vegetables ever heard of by either party to the counsel have been added to the list. If a man have a garden why not enjoy all that a garden can produce? Egg plants, and okra, and globe artichokes, and salsify, and white Naples radishes, and Brussels sprouts. The seeds of all these are handed over to the willing Patrick, who, as Mrs. Lackland impressively enumerates the different labels (Patrick not being competent to reading of fine print, as he freely confesses), repeats after her, "Naples radish, yis, m'am; artichokes, yis, m'am; okra, y'is, m'am."

Lackland provides frames and glass for the early salads he covets so much, and Patrick, with the fresh sweepings of the stables, has presently a bed all a-steam. At the mere sight of it the Lacklands regale themselves with thoughts of crisp radishes, and the mammoth purple fruit of the egg-plants. The seeds are all put in—early cabbage, cauliflower, peppers, radishes—under the same frame by the judicious O'Donohue. The cabbages and the radishes come forward with a jump. Their expedition forms a pleasant theme for the physiological meditation of Lackland. He is delighted with the stable manure, with the cabbage seed, and with the O'Donohue. He is inclined to think disrespectfully of the seed of peppers and of egg-plants in the comparison. But the bland O'Donohue says, "We must give 'em a little more hate."

And after some three or four days, Lackland is stupefied, on one of his visits to his hot bed, to find all his fine radishes and cabbages fairly wilted away; there is nothing left of them but a few sun-blackened stumps; the peppers and egg-plants show no signs of germination.

"What does all this mean?" says Lackland; "the cabbages are dead, Patrick."

"Yis, sir—it's the hate, sir. The sun is very strong here, sir; we must give 'em a little more air, sir."

And they get the air—get the air (by a little forgetfulness on the part of Patrick) night as well as day; the peppers and egg-

plants, after a fortnight more of expectation, do not appear.

"How's this, Patrick? no start yet?"

"And are ye sure the seed's good, sir?"

"It's all Thorburn's seed."

"Then, of course, it *ought* to be good, sir; but, ye see, there's a dale o' chatery now-a-days, sir."

In short, Lackland's man Patrick is a good-natured blunder-head, who knows no better than to submit his young cauliflowers, and peppers, to the same atmospheric conditions in the forcing frame. The result is that Lackland buys his first salads in the market, and his first peas in the market, and his first beets in the market. All these creep along very slowly under Patrick's supervision, and the onion seed is fairly past hope, being buried too deep for the sun to have any influence upon its germinating properties.

"But how is this," says the long-suffering Lackland, at last, "our neighbors are all before us, Patrick?"

"Well, sir, it's me opinion that the land is a bit cowld, sir. Wait till July, sir, and you'll see vigitables."

And Patrick grubs away with a great deal of misdirected energy—slicing off, in the heat of his endeavor, two or three of Mrs. Lackland's choicest rocket larkspurs; whereupon that lady comes down upon him with some zeal.

"Larkspur! and that's a larkspur, is it, m'am (scratching his head reflectingly)? and, begorra, I niver once thought 'twas a larkspur. Pity, pity; and so it was, indade, a larkspur? Well, well, but it's lucky it wa'n't a rose-bush, m'am."

And yet the good-natured blunder-head in the shape of a gardener is far more endurable, to one thoroughly interested in country life, than the surly fellow who, if he gives you early vegetables, resents a suggestion, and who will take a pride in making any particular scheme of the proprietor miscarry by a studied neglect of its details.

Upon the whole, I should lay down as

sound advice for any one who, like Lackland, is beginning to establish for himself a home in the country that shall be completely enjoyable, the following rules with respect to the pursuit and employment of a gardener.

First, if your notion of country enjoyment is limited by thought of a good place where you may lie down under the trees, and frolic with your children, or smoke a pipe under your vine or clambering rose-tree at evening—find a gardener who is thoroughly taught, and who can place upon your table every day the freshest and crisppest of the vegetables and fruits of the season, leaving you no care, but the care of bills for superphosphates and trenching. If you stroll into his domain of the garden, take your walking-stick or your pipe there, if you choose—but never a hoe or a pruning knife. Joke with him, if you like, but never advise him. Take measure of his fitness by the fruits he puts upon your table, the order of your grounds, and the total of your bills. If these are satisfactory—keep him: if not, discharge him, as you would a lawyer who managed your case badly, or a doctor who bled or purged you to a sad state of depletion.

If, on the other hand, in establishing a country home, you have a wish to identify yourself with its growth into fertility and comeliness, in such sort that you may feel that every growing shrub is a little companion for you and yours—every vine a friend—every patch of herbs, of vegetables, or of flowers, an aid to the common weal and pleasures of home, in which you take, and will never cease to take, a personal interest and pride—if all this be true, and you have as good as three hours a day to devote to personal superintendence—then, by all means, forswear all gardeners who come to you with great recommendations of their proficiency. However just these may be, all their accomplishments, ten to one, will be only a grievance to you. It is far better, if you be really in earnest to taste ruralities to the full, to find some

honest, industrious fellow—not unwilling to be taught—who will lend a cheerful hand to your efforts to work out the problem of life in the country for yourself.

You will blunder; but in such event you will enjoy the blunders. You will burn your young cabbages, but you will know better another year. Your first grafts will fail, but you will find out why they fail. You will put too much guano to your sweet corn, but you will have a pungent agricultural fact made clear to you. You will leave your turnips and beets standing too thickly in the rows; but you will learn by the best of teaching—never to do so again. You will buy all manner of fertilizing nostrums,—and of this it may require a year or two to cure you. You will believe in every new grape, or strawberry,—and of this it may require many years to cure you. You will put faith, at the first, in all the horticultural advices you find in the newspapers,—and of this you will speedily be cured.

In short, whoever is serious about this matter of taking a home in the country (if his rural taste be a native sentiment, and not a whim), should abjure the presence of a surly master in the shape of a gardener, who can tell him how the Duke of Buccleugh (or any other) managed such matters.

God manages all of nature's growth and bloom in such way, that every earnest man with an observant eye can so far trace the laws of His Providence, as to insure to himself a harvest of fruit, or grain, or flowers. And whatever errors may be made are only so many instructors, to teach, and to quicken love by their lesson.

Let us not then despair of our friend Lackland, though his cabbages are burnt and his beets are behind the time. I shall visit him again, and trust that I may find his verbenas and lilies in bloom, though his larkspurs have been cut down.

Edgewood, June 2d, 1865.

HINTS TO ORNAMENTAL PLANTERS.

BY. A. D. G.

If one may judge from his own experience, more is often learned by careful attention to "hints" in gardening than from elaborate treatises on the subject. The hint is generally the result of experience or observation, and suggests something really useful. Many who read the ponderous octavos of Loudon, and Mackintosh and Downing, get only general principles from their study; but when they mingle with intelligent gardeners, or visit fine country places, they get ideas which can at once be reduced to practice. The hints to beginners, which the pages of the *HORTICULTURIST* have so often presented to their readers, constitute some of its most valuable matter.

—It is a mistaken notion that a lawn should be *large*. If of great extent, it lacks

simplicity and home-likeness. It should be a cozy nook rather than a broad, open expanse. A large extent of surface is expensive to make and keep, and can hardly be maintained in that perfect order which is one of the great charms of a lawn. It should be large enough to show a few fine trees to advantage—their masses of foliage floating in the air, and their shadows stretching across the velvet turf; large enough for a wavy belt of shrubs on its borders, and running out, here and there, into the grass; large enough for children to romp and roll over it; but not large enough for a grove of trees to be planted upon it, nor for the review of a regiment of soldiers. It should be just large enough for the owner to keep it entirely free from weeds, its grass

smoothly shaven and rolled, and its walks and flower-beds (if it contain them) in complete order.

If the planter have a large surface at command, which he wishes to devote to grass, let him convert it into two lawns of moderate size. These should be partially screened from each other by rambling lines of shrubs and low trees. Walks may be laid through this shrubbery to connect the two scenes. While there should be nothing in the one lawn designedly to suggest the other, yet no harm will be done if the bays and recesses in the surrounding foliage, and occasional glimpses of smooth turf beyond, suggest to the visitor that the domain is of large extent, and that the sources of his gratification will not soon be exhausted. Thus variety of scene will be secured, curiosity be stimulated and pleasantly rewarded. That the two lawns should differ in size, outline and arrangement need hardly be added.

— The expression of a lawn is a matter of some consequence. Beginners are apt to give it a look of smartness. They dot it over with new-fangled trees, or crowd it with vases and statuary, or arbors, rustic seats and rock-work, or they throw it into jolting terraces, or cut it up into flower-beds in arabesque patterns. We have in our mind's eye a lawn of moderate dimensions in which there are six cast iron vases, two lions, four dogs, four female figures representing the Seasons, besides several other works in terra-cotta. This is the classical run mad. On the same street is another lawn, much smaller, in which a great number of the new weeping trees are huddled together. This is nature made awry, and the distortion makes the beholder uncomfortable. A single specimen of these oddities may sometimes be set on the side of a lawn, for variety, and just to show what nature and art can do "on a bender," but more than one is too many.

The best expression of a lawn is that of repose; not, indeed, the repose of an unkempt meadow, but of grounds over which

the hand of taste presides, and easily fashions into beauty. There should be nothing to suggest the thought of labor and cost in the making and keeping of the lawn, or of desire to attract attention and make a display. It should suggest ideas of comfort, of rest from care and toil, of freedom from excitement and hurry, of self-contained enjoyment. With this expression, the oddly shaped trees, the superabundance of statuary and the glitter of flower beds somewhat conflict. A vase or figure rightly set produces a fine effect. If flowers are admitted into the lawn, it should be sparingly, and they should be constant bloomers. The flower-garden proper should be disposed in a scene by itself, somewhat secluded, and of large or small extent, according to the taste of the proprietor.

— The outlook of a lawn should be well considered; for, however pleasant one's own grounds may be, their charm will be heightened by glimpses of the world beyond. But beautiful scenery—hill, wood, stream, and purple mountains—becomes still more beautiful if it bears some marks of relation to man. The landscape artist, while giving us a view of nature in her wildness, knows that he adds a higher expression to his canvas if he gives it also some token of human life, such as the smoke curling up from a distant cottage, or a sail upon a sheet of water, a church spire rising above the woods.

Let the rural improver bear this in mind. While "planting out" offensive objects, he should be careful not to hide all the living scenes in his landscape. So, too, if one builds his house upon a wooded site, where the improvements are to be made as much with the axe as the spade, let him open vistas so as to bring in those objects which address the heart's finer sentiments, and so associate nature with humanity.

And here let us digress a little to say we see one reason why the purchaser of a "finished" place often feels little interest in it at first, but generally finds that interest increasing from year to year. He must needs do something to the place, must think

about it, dream about it, work upon it, alter it, add to it, and in various ways mingle his own personality with it, before his affections will twine about it, and he will really love it as his own home. This brings in the human element, adds fragrance to the flowers, grace and majesty to the trees, and sweetness to the very soil.

— Finally—if the writer of these “hints” is not assuming too much authority—let him caution small planters against *attempting too much*. Landscape gardening in a door-yard often verges upon the ridiculous. The proprietor, having read the standard authors, or visited a few large country residences, is seized with the rural fever, and determines to try his hand at improving his own place. He forthwith draws up a plan, with its winding walks and roads, its summer-houses, pines, oaks, magnolias, flower-patches, and what not. Large packages of trees and shrubs and vines are ordered from the nursery, and groups and masses and screens are set out all in a grand way. The work looks very fine to the owner; but to any discerning eye that stops to forecast the future, the little plat looks crowded and overburdened before it is half planted. A few years roll by, and how does the place look to everybody? It is one great confused mass of foliage, the trees overgrowing each other, and killing out the grass and shrubs beneath. Even the planter himself is dissatisfied, and wishes he had never meddled with landscape gardening.

The obvious lesson from cases like this is that in small places only a few trees should be planted. These should be set along the

boundaries, near the gates, and at wide intervals over the surface. Calculate their spread for twenty years or more to come, and plant accordingly. It is often said, we are aware, that trees may be set close together at first for immediate effect, with the design of removing a portion of them when they become crowded. This is all very well if that intention is faithfully carried out; but in most cases it is not. The owner dislikes to cut down the trees which he has planted, or he neglects to do so until they have grown up tall and gaunt, like those of a forest. If a man plants trees close together, for immediate effect, intending to take out a part of them in a few years, the only safe way is for him to bind himself to his neighbors to forfeit a large sum of money or to be sent to the Insane Asylum in case he neglects to do it!

In place of numerous large trees in small grounds, how much better to plant, in part, with low trees and shrubs. The number and variety of these last is greater than many suppose; and hardly less artistic skill can be shown in their arrangement than in the disposition of trees. The effect, too, in its way, is equally pleasing. They can be set as single specimens on the lawn, or be grouped in masses of varied outline, height and color.

But whatever be the mode adopted of planting small grounds, let not the work be overdone. A smooth carpet of grass, a few choice trees and shrubs, a knot or two of flowers, and all in high keeping, will commend themselves to every eye.

COOL TREATMENT OF ORCHIDS.

BY EDWARD S. RAND, JR.

WITHIN the last two years an entire change in the culture of orchids has been advocated, and in some instances carried into practice in England, and with no incon siderable degree of success.

This new mode of culture, known as the

“cool treatment,” is directly opposed to the practice of the last thirty years, and to all the theories of orchid culture. The proposition on which it is based is that orchid houses have always been kept too hot, and the plants grown on a high pressure sys-

tem; that the maintenance of such a temperature is not only very expensive, as all experience has shown, but positively injurious to the plant, causing an exhaustion of the vital functions. The conclusion drawn is that any one having a heated grapery where the temperature is never allowed to fall below forty degrees Fahrenheit, may grow most of the orchids now in cultivation in great perfection, and withal ripen his grapes quite as well as when the house was exclusively devoted to them.

Now, if this can be done, and it has in some cases been successfully accomplished, the culture of orchids becomes easy, and much of the expense, which has deterred so many from attempting it is saved. The experience of florists and horticulturists hitherto has shown that it is impossible to grow grapes and flowers successfully in the same house; in other words, a grapery and green-house cannot be combined. But if our forcing houses can be adorned with the gorgeous, fragrant and curious flowers of orchids (than which there is nothing more beautiful and remarkable in the floral world), the discovery is one of the greatest value to the florist and amateur. We propose to condense from the latest English publications the experience of those who have put the new theory into practice, feeling that if further trial proves the discovery to be of general adaptation, its value can hardly be estimated. But first let us state that, while experience has shown that this mode of culture succeeds with most orchids, it does not suit the nature of those species which come from the hot damp jungles of the Eastern continent; but is more especially adapted to South American and Mexican species, particularly those which are natives of the great Andean range, where in fact the largest part of South American orchids occur.

We learn from Humboldt that although orchids are scattered throughout every part of the torrid zone, from the level of the sea to the height of ten or eleven thousand feet, yet it must be admitted that in the

number of species, the coloring of their blossoms, delicious fragrance, rich foliage, and profusion of bloom, none can be compared to those that inhabit the Andes of Mexico, New Granada, Quito and Peru, where the shade is moist and the breezes mild, and the mean temperature of the year, at an elevation of between forty-eight thousand and sixty-six thousand feet, is from sixty-four to sixty-nine degrees Fahrenheit. In fact, these most beautiful of plants, like those most beautiful of birds, the humming-birds, seem to cling with a marvellous partiality to the vast Andean chain which stretches from the frontiers of Mexico to the confines of Peru. These mountains are, geologically speaking, of recent date; the orchids therefore that inhabit them must likewise be comparatively recent: indeed, no fossil orchid has ever been discovered; although ferns, with which in these days orchids are invariably associated, have been found in countless myriads in the palaeozoic strata.

About ten years since, continued failure in the cultivation of many New Grenadian and Peruvian orchids led to the suspicion that both the theory and practice of culture were fundamentally wrong; and experiments were tried in varying the temperature, which met with partial success. The fault still was that too much heat was given, and often too little moisture; consequently the finest species dwindled day by day, flowering poorly, if at all, and finally were lost to cultivation.

It was on the collection of Linden that the first decided move was made towards cool treatment, and the first decided triumph achieved; and there it was that the rare and beautiful *Odontoglossum* figured in "Pescatoria" flowered for the first time in cultivation.

In growing plants under the "cool treatment," the house should be low and small, and should be either a "lean to" facing the north, or a well-shaded "span roof." The temperature should be as equable as circumstances will permit, that is to say, during

the day time in winter it should not fall below sixty degrees, while during the day time in summer the less it rises above seventy degrees the better.

In the night, of course, the temperature will fall considerably, and even if it sink below fifty degrees no harm will be done; many of the finest *Odontoglossums* thriving at a minimum temperature of thirty-five degrees.

Experience has shown that the East Indian house, or a temperature averaging from a winter minimum of sixty degrees to a summer maximum of ninety-five degrees, is not the temperature suited to the well-being of a single known example of *Odontoglossum* or *Lycaste*. A *Cattleya* house, ranging from a minimum of fifty-five degrees to a maximum of eighty-five degrees, is not exactly suited to either of the genera named, though such species as *Odontoglossum grande*, *Bicornense* and *Nebulosum* will live and remain tolerably healthy under such a temperature, if accompanied with a proper degree of moisture. In fact, for such a collection and for such rare and valuable plants as *Epidendrum vitellinum*, *Lycastes* of all species, *Lelia cinnabarrina*, *anceps* and *flava*, *Cattleya Skinnerii* and *citrina*, *Trichopilia* and *Anguloa* of all sorts, and many plants of kindred nature, a minimum of forty-three degrees and a maximum of seventy to seventy-five degrees during the heat of summer are of all temperatures best suited to the plants. Lower than forty degrees (except in a collection composed entirely of *Odontoglossum Pescatorei*, *cordatum*, *membranaceum*, *Ehrenbergii*, and *Cervantesii*, which will bear thirty-five degrees), it had better never be, even in very cold weather; and some care must be taken to keep the plants during that time in a medium state of moisture.

Higher than fifty degrees at night during the dead of winter is not a good practice, although the temperature may be allowed to rise thus high during the day before giving air. Plenty of fresh air is of great importance during summer and autumn to consolidate the pseudo-bulbs and encourage free flowering.

It must be borne in mind and carried out in practice that in order to promote the health of the plants, the temperature in doors must rise and fall with the out-door air. A good proportion is from five to eight degrees during the night, and from eight to twelve degrees during the day.

The plants themselves may be grown either on blocks or in pots, the *Odontoglossums* always preferring the latter, and *Epidendrums* the former. The general directions for potting given in a former article apply perfectly to these plants. As a general rule, they all delight to grow in good rich fibry matter, such as is to be had in swamps and peat meadows, where vegetable fibre largely predominates. As many of the particles of earthy matter as can be easily got rid of should be separated from the turves by beating. If there is any inclination to soddenness or a disposition of any kind to obstruct through aeration, a good quantity of sphagnum moss should be introduced, which counteracts any bad effects.

There is nothing to be gained by impoverishing the semi-terrestrial species, and often cow or horse droppings well dried may be added to the potting material with beneficial results.

No *Odontoglossum*, *Lycaste*, *Lelia*, or *Trichopilea*, as a general rule, should be allowed to get dry at the roots.

Nothing cripples their power of action so much as drought, and it sometimes requires months or even years for a plant to recover from a single "drying off." It must be borne in mind that many of these plants have watery bulbs, and make several growths in a year (such are *Odontoglossum Pescatorei*, *crispum*, *odoratum* and *gloriosum*); and if the bulbs are once allowed to dry up and shrivel, they seldom recover their former vigor.

Occasionally it is necessary, in order to induce floral development, to check the luxuriance of particular species which show little disposition to flower annually unless thus wrought upon by the hands of the cultivator; but there is a particular time when such treatment is requisite (and each

plant must make its own rule), and its duration must not be extended for too long a period.

During the growing season no cessation of vigor must be encouraged; ample supplies of water, both at the root and in the atmosphere, are what the nature of the plant demands. If the potting material be of the right kind, so porous as to allow air to pass freely, and so fibrous as not to become sodden, water may be given once a day without injury.

To promote a moist atmosphere, the shelves of the orchid house may be strewn with wet moss, from which the evaporation is highly beneficial.

Insects should be kept under by the means given in former articles. We must, however, remember that the fumes of tobacco are injurious to many of the Odontoglossums and other cool orchids, causing them to shed their leaves; and, as a general rule, a miscellaneous collection of orchids requires to be fumigated with great care and judgment.

We have said that experience has latterly tended to show that orchids associate admirably with vines, and that they may be successfully flowered and a crop of grapes be grown in the same house. If we consider the range of temperature we have given above for the regulation of a cool orchid house, we see it accords well with that required in a forcing grapeviny.

Experiments in England have shown that there are but few orchids which cannot be cultivated under vines, and that many of the East-Indian species, which have always been held in the greatest heat, will do well under this régime.

There are, however, some species, mostly found in the genera *Vanda*, *Aerides* and *Balanopis*, which cannot be thus grown, though these in summer will succeed in a grapeviny. This experiment is certainly worthy in this country. Its success is, of course, questionable, for the intensity and force of our summer sun is so much greater than in England, that what may be a suc-

cess in one country may prove a disastrous failure in the other; and the shade necessary for the plants might be too great for the grapes.

There is another advantage resulting from the discovery of the cool treatment system. It is not impracticable to grow orchids in cities where only a very small space can be given: the house must be small, and the temperature need not be high.

Both these conditions could be realized with but little trouble and expense. An attic room or a shady unsightly yard could, with a very slight outlay, be converted into a miniature orchid house, and the magnificent Andean orchids, together with the hardier ferns and lycopods, grown with very little trouble.

In London and other European cities, this has been successfully done, and there is no reason why success should not reward experiments of this kind in our own large cities.

Some orchids have been successfully grown in the house as parlor plants, and *Odontoglossum grande* has even been bloomed in England in the open air; but we are not enthusiastic in regard to "parlor gardening" with orchids, the result of all experiments showing that the only plant very successfully grown in the house was *Lycaste Skinnerii*, which roots more freely in peat than any other orchid.

It only remains to give a list of those orchids which experience has shown thrive remarkably in a cool house.

First, all the ODONTOGLOSSUMS from New Granada for the coolest house, those from Mexico and Guatemala thriving with a little more heat, but doing well in a house where the temperature is regulated as we have before prescribed.

The Indian CÆLOGYNES, particularly the deciduous tribe of PLEIONES, which need plenty of water while growing, and which when well grown flower as freely as a pot of crocus.

LYCASTES in all the species, but particularly *Skinnerii*, *cruenta* and *aromatica*.

MAXILLARIA *venusta*.

EPIDENDRUM aurantiacum, vitellinum, macrochilum and cinnabarinum.

ANGULOA Clovesii, Ruckerii and uniflora.

BARKERIA Skinnerii and spectabilis.

DENDROBIM speciosum.

PHAJUS albus and grandifolius.

CYPRIPELUM caudatum, and most other species.

UROPELUM Lindeni.

DISA grandiflora.

There are many other orchids which grow and flower better with a moderate degree of heat, and which do well in a cool house during the greater part of the year: such are *Lelias*, *Sophronitis* and many others.

This system of culture is as yet in its infancy, and we may reasonably hope that further experiments will prove that orchid culture, now confined to a few, may before many years be within reach of the masses, and the rich flowers of the Lelias, Odontoglossums and Cattleyas, the fragrant blossoms of the Aerides, Dendrobiums and Stanhopeas, and the curious blooms of the Catesetums and Coryanthes, be as well known at our horticultural exhibitions as the ever favorite roses, lilies and violets.

Glen Ridge, June, 1865.

CULTURE OF THE ROSE.—CONTINUED.

BY F. PARKMAN.

Climbing and Pillar Roses.

WHEN roses are trained to cover walls, trellises, arches or pillars, the main stems are encouraged to a strong growth. These form the permanent wood, while the side-shoots, more or less pruned back, furnish the flowers. For arbors, walls, or very tall pillars, the strongest growers are most suitable, such as the Prairie, Boursault and Ayrshire roses. Enrich the soil strongly, and dig deep and widely. Choose a healthy young rose, and in planting, cut off all the stems close to the earth. During the season it will make a number of strong young shoots. In the following spring cut out half of them, leaving the strongest, which are to be secured against the wall, or over the arbor, diverging like a fan, or otherwise, as fancy may suggest. The subsequent pruning is designed chiefly to regulate the growth of the rose, encouraging the progress of the long leading shoots until they have reached the required height, and removing side-shoots where they are too thick. Where a vacant space occurs a strong neighboring shoot may be pruned back in spring to a single eye. This will

stimulate it to a vigorous growth, producing a stem which will serve to fill the gap. Of the young shoots, which, more or less, will rise every season from the root, the greater part should be cut away, reserving two or three to take the place of the old original stems, when these become weak by age. When these climbing roses are used for pillars, they may either be trained vertically, or wound in a spiral form around the supporting column.

Roses of more moderate growth are often trained to poles or small pillars, from six to twelve feet high. Some of the Hybrid China roses are, as before mentioned, well adapted to this use, and even some of the most vigorous Moss roses, such as *Princess Adelaide*, may be so trained. Where a pole is used two stems are sufficient. These should be examined and cut back to the first strong and plump bud, removing the weaker buds always found towards the extremity of a stem. Then let the stems so pruned lie flat on the earth till the buds break into leaf, after which they are to be tied to the pole. If they were tied up im-

mediately, the sap, obeying its natural tendency, would flow upward, expanding the highest bud, and leaving many of those below dormant, so that a portion of the stem would be bare. (The same course of proceeding may be followed with equal advantage in the case of wall and trellis roses). The highest bud now throws up a strong leading shoot, while the stem below becomes furnished with an abundance of small side-shoots. In the following spring the leading shoot is to be pruned back to the first strong bud, and the treatment of the previous year repeated. By pursuing this process, the pillar may, in the course of two or three years be enveloped from the ground to the summit with a mass of leaves and blossoms.

These, and all other rose pruning operations are, in the northern States, best effected in March, or the end of February, since roses pruned in Autumn are apt to be severely injured and sometimes killed by the severity of our winters.

SUBSEQUENT CULTURE.

Nothing is more beneficial to roses than a frequent digging and stirring of the soil around them. The surface should never be allowed to become hard, but should be kept light and porous by hoeing or forking several times in the course of the season. A yearly application of manure will be of great advantage. It may be applied in the Autumn or in the Spring, and forked in around the plants. Cultivators who wish to obtain the finest possible blooms, sometimes apply liquid manure early in the Summer, immediately after the flower-buds are formed. This penetrates at once to the roots and takes immediate effect on the growing bud.

AN EXPERIMENT IN ROSE GROWING.

The amateur may perhaps draw some useful hints from an experiment made by the writer in cultivating roses, with a view to obtaining the best possible individual flowers. A piece of land about sixty feet long by forty wide was "trenched"

throughout, to the depth of two feet and a half, and enriched with three layers of manure. The first was placed at eighteen inches from the surface; the second at about nine inches, and the third was spread on the surface itself, and afterwards dug in. The virgin soil was a dense yellow loam of considerable depth; and by the operation of "trenching," it was thoroughly mixed and incorporated with the black surface soil. Being too stiff and heavy, a large quantity of sandy road scrapings was laid on with the surface-dressing of manure.—When the ground was prepared the roses were planted in rows. They consisted of Hardy June, Moss, Hybrid Perpetual, Bourbon, and a few of the more hardy Noisette roses. They were planted early in Spring, and cut back at the same time close to the ground. Many of the Perpetuals and Bourbons flowered the first season, and all grew with a remarkable vigor. In November, just before the ground froze, a spadesman, working backward, midway between the rows, dug a trench of the depth and width of his spade, throwing the earth in a ridge upon the roots of the roses as he proceeded. This answered a double purpose. The ridge of earth protected the roots and several inches of the stems, while the trench acted as a drain. In the Spring, the earth of the ridge was drawn back into the trench with a hoe, and the roses pruned with great severity, some of the weak-growing Perpetuals and Mosses being cut to within two inches of the earth, and all the weak and sickly stems removed altogether. The whole ground was then forked over. The bloom was abundant and the flowers of uncommon size and symmetry. Had the pruning been less severe the mass of bloom would have been greater, but the individual flowers by no means of so good quality.

STANDARD ROSES.

Of budded roses we shall speak hereafter, in treating of propagation. There is one kind, however, which it will be well to notice here. In England and on the Continent it is a common practice to bud roses

on tall stems or standards of the Dog Rose, or other strong stock, sometimes at a height of five feet or more from the ground. The head of bloom thus produced has a very striking effect, especially when the budded rose is of a variety with long slender shoots, adapted to form what is called a "weeper."

In France, standard roses are frequently planted near together in circular or oval beds, the tallest stems being in the centre, and the rest diminishing in regular gradation to the edge of the bed which is surrounded with dwarf roses. Thus a mound or hill of bloom is produced with a very striking and beautiful effect.

Unfortunately, the severe cold and sudden changes of the northern States, and especially of New England, are very unfavorable to standard roses. The hot sun scorches and dries the tall bare stem, and the sharp cold of winter frequently kills, and in almost every case greatly injures the budded rose at the top. It is only by using great and very troublesome precaution that standards can here be kept in a thriving condition. This may be done most effectually by cutting or loosening the roots on one side, laying the rose flat on the ground and covering it during winter under a ridge of earth. Some protection of the stem from the hot sun of July and August can hardly be dispensed with.

With regard to the mounds of standard roses first mentioned, it is scarcely worth while to attempt them here; but a very good substitute is within our reach. By choosing roses with a view to their different degrees of vigor, planting the tall and robust kinds in the middle, and those of more moderate growth in regular gradation around them, we may imitate the French mounds without the necessity of employing standards. Of course it will require time and also judicious pruning to perfect such a bed of roses; but when this is done it will be both a beautiful and permanent ornament of the lawn or garden.

ENEMIES OF THE ROSE.

A good soil, a good situation, free air and

full sun, joined with good manuring, good pruning and good subsequent culture will prevent more diseases than the most skilful practitioner would ever be able to cure.—There are certain diseases, however, to which roses under the best circumstances are more or less liable. Of these the most common, and perhaps the worst is the mildew. It consists in the formation on the leaves and stems of a sort of minute fungus, sometimes presenting the appearance of a white frost. Though often thought to be the result of dampness, it frequently appears in the driest weather. Many of the Bourbon roses, and those of the Hybrid Perpetuals, nearest akin to the Bourbons, are peculiarly liable to it. In the greenhouse the best remedy is sulphur, melted and evaporated at a heat not high enough to cause it to burn. In the open air the flour of sulphur may be sifted over the diseased plants.

The worst enemies of the rose belong to the insect world. Of these there are four, which in this part of the country cause far more mischief than all the rest combined. The first is the aphis or green fly; the second is the rose-slug or larva of the saw-fly; the third is the leaf-hopper, sometimes called the thrip, and fourth is the small beetle, popularly called the rose-bug. The first three are vulnerable, and can be got rid of by using the right means. The slug is a small green semi-transparent grub, which appears on the leaves of the rose about the middle of June, eats away their vital part, and leaves nothing but a brown skeleton, till at length the whole bush looks as if burned. The aphis clings to the ends of young shoots and sucks out their sap. It is prolific beyond belief, and a single one will soon increase to thousands. Both are quickly killed by a solution of whale-oil, soap, or a strong decoction of tobacco, which should be applied with a syringe in the morning or evening, as the application of any liquid to the leaves of a plant under the hot sun is always injurious. The same remedy will kill the leaf-hopper.

which being much more agile than the others, is best assailed on a cold day when its activity is to some degree chilled out of it. Both sides of the leaves should be syringed, and the plant thoroughly saturated with the soap or tobacco water. Two thorough and well-timed applications will suffice to destroy the years' crop of slugs.

The rose-bug is endowed with a constitution which defies tobacco and soap, and

though innumerable remedies have been proposed, we know no better plan than to pick them off the bushes by hand, or, watching a time when they are chilled with cold to shake them off upon a cloth laid on the ground beneath. In either case sure work should be made of them by scalding or crushing them to death. Fortunately they are not very troublesome in most localities.

NOTES ON THE JUNE NUMBER.

CURIOSITIES OF HORTICULTURE.

A good record, but I fear giving too favorable a view of the profits of fruit growing.

We must recollect that all have not Philadelphia or New York markets, in which to sell; and again, we must recollect that prices of fruits for the past two years and now, have like many other things, felt the influence of an expansive currency.

Grapes, to command a dollar per pound, must be grown with no little expense of time, talent and outlay of structure.—Pears, to command a shilling a piece even in New York market, must have the inferior ones carefully thinned out from the tree, &c.; but we may safely conclude that whenever, and by whom, and in what manner fruit growing has been made profitable, the same may be continued, and with a reasonable probability of an increase. In many sections, our Delaware, Lydia, and Catawba grapes can be grown at a net profit of over two hundred dollars per acre, at six cents per pound, while peaches, apples and pears will pay a like sum when the trees are in full maturity.

FLOWERS IN MASSES.

A capital article, but the instruction for reparation of a flower bed, etc., is perhaps little of the old grape school order, i. e. an excavation of three to four feet deep."

The writer has planted some twenty years, and finds on clay soil especially, that beds dug and prepared below the depth of the surrounding soil, do no better, if quite as well, as when kept a little above.

The taking up, digging, and replanting of all roses, etc., should be done every year, and the forking over of bulb ground, we prefer to do in the fall rather than the spring, then cover with a light mulch, and in spring rake off. Both ways are good.

GRAPE CUTTINGS FROM HISTORY.

I hope the writer will not be disappointed in his new and *superior* grape, but I beg of him not to puff it and have an auction sale until it has been fruited in more than one locality.

The introducer of a new fruit should strive at something more than the making the most money of it. It might have been added in "Curiosities of Horticulture," that no one who has ever introduced a fruit, showing as a leading object gain, has kept a reputation for character as a Horticulturist. It is the poorest of all professions to dissemble in.

By the by, let us ask Mr. Husmann to tell us a little about Rulander and some other of the grapes grown and little known. He knows all about them, and it will not do to let his modesty keep that knowledge entirely to himself.

GREEN-HOUSE FERNS.

Don't know much about them, but I do know some, and want to know more about our hardy ferns; for in fitting up rockwork, there is no plant that comes in more beautifully than they when a right exposure can be had.

HINTS AND QUERIES.

"Trouble, trouble, boil and bubble."—Well, my friend, "never say die." Try transplanting your English gooseberries every fall, digging the soil over, and we think you will get fair fruit. By so doing we have succeeded for years; yet one swallow does not make a summer, nor one man's practice make correct principles in Horticulture.

Others may think differently, but we should have no confidence in Kilmarnock willow enduring the winters where the common weeping failed, nor have we any confidence that Catalpa will endure any very extreme of temperature in winter, even if planted in sand.

FOREIGN TRAVEL.

He who loves to look on a beautiful beach, may see as elegant specimens as ever were grown, out of Cincinnati on one of the cross roads leading to Clifton; and for Spanish and French Marron Chestnuts, perhaps no better specimens are found than in New Jersey, at Burlington, &c.

As a general thing, we do not study the

beautiful in tree. Most of us forget that we have two eyes and only one mouth, and so forgetting, too often plant a fruit tree where an Elm, Beech, etc., would, in a few years, contribute most to our actual enjoyment and comfort.

BUCKTHORN VS. HONEY LOCUST.

Let me add, that twenty-one years since, I planted a Honey Locust hedge, and it is yet in existence. It has been plashed and trimmed; is now about seven feet high; is a good barrier, but entirely devoid of beauty, as compared with one of Buckthorn planted some six years afterwards.

OUR METHOD.

So much is being now said of Grape culture, that it is perhaps better not to remark on "our method." I will only ask if experience has taught that *early in June* removing the secondary shoots from the double bud, and a judicious *pinching*, &c., is practically productive of the best effects.

FORESTS AND FOREST TREES.

Like all of the C. N. B. articles well considered, and as he says, one example in a neighborhood will, in a few years induce extensive copyings.

All cannot or will not read the article, but those who have should see to it, that its seed be sown on good ground, and when planting season again comes let its growth be apparent.

REUBEN.

UPON RAISING HYBRID AND SEEDLING GRAPES.

BY GEO. W. CAMPBELL, DELAWARE, OHIO.

THE remarks of Mr. Merrick, in the May number of the *HORTICULTURIST*, induce me to offer a few items of my experience, as I have been experimenting in the way of "raising seedlings" for some seven or eight years past. I have not raised a very large number, for I have never planted large quantities of seed promiscuously and indiscriminately. The seed that I have planted

have either been selected from the finest specimens of the best varieties of grapes, or from those which have been hybridized or crossed with varieties having qualities which I desired to perpetuate. When I commenced these operations, the Delaware and Logan grapes were regarded as among the most valuable, and I planted seed from the Delaware, and made an artificial cross

between the two, using the Logan as the pistillate, and the Delaware as the staminate parent. I placed the seed in small vials, as they were saved, keeping each kind labeled and separate. On the approach of winter, I put the seed into clean, sifted sand in small pots, and buried it a few, inches under the ground, where it would be subjected to the action of frost. About the first of March, seed thus treated were taken up and planted in moderately rich compost in thumb pots; one seed in a pot, and placed upon a propagating bed. About two-thirds would vegetate within four weeks. Some earlier, but those that came up later were usually weak and imperfect, and apparently of no use. The plants from simple seedlings usually have a strong resemblance in foliage and habit of growth to the parent. Those from hybrids and crosses sometimes resemble one, and sometimes the other parent; and again exhibit very distinctly mixed characteristics of both. I will here remark that I use the term "cross" to indicate a seedling from the union of two native varieties, and "hybrid," when from a foreign and native. The main object which I have had in view in my experiments, was if possible to unite the qualities of the finest foreign varieties with the hardiness of our best natives. Secondarily, improvement of native varieties. To this end I made crosses between Delaware and Logan, Catawba and Logan, Delaware and Concord, Delaware and Union Village; also hybrids between Black Portugal and Delaware, Black Hamburgh and Delaware, Grizzly Frontignan and Delaware, Rogers' Hybrid, No. 4 and Delaware, White Frontignan and Taylor, Chasselas Fontainebleau and Taylor, Chasselas Musque and Concord, and many others. I have seedlings of all the above named growing; but a large portion of them have not yet borne fruit; and of those that have, I am sorry to say the number promising any valuable results is very small. We have grapes enough of merely tolerable quality already; and I perceive no benefit to the public in multi-

plying this class. But if a Delaware of increased size of bunch and berry, with also somewhat stronger growth could be produced, all would recognize its value at once. Or if a Catawba could be produced, ripening early in September, its worth could hardly be estimated. As much might be said of a hybrid, with the quality and flavor of the Frontignans, or Hamburghs, if united with the hardiness and earliness of the Concord. I am laboring in the hope of producing some such result, but I cannot express much confidence of ever reaching it. Certain I am, that I have not done so yet. Of the Delaware seedlings, none are equal to their parent in their present stage of development, though one or two white ones may be worth perpetuating on account of their color.

Of the crosses of Delaware and Logan, but one so far seems worthy of any attention. This one has many good qualities, being perfectly hardy, with thick, strong healthy foliage, very productive, having usually four bunches on each fruit stalk; bunches rather large, compact; berries black, oval, and intermediate in size between Delaware and Logan, ripening about the first of September. The quality, apparently a perfect mixture of the two varieties—an improvement upon the Logan, but inferior to Delaware.

Of the Catawba and Logan cross some two or three may be regarded about as promising as the one above mentioned, ripening also early in September. They have borne fruit two years, and if they observe the usual law of improvement as they become more fully developed by age, may be of some value. While I believe it is usual for grape seedlings to improve for a series of years after they come into bearing, I have reason to doubt its being universal; for some Delaware seedlings, and I think some others have developed the wrong way, having been better in their first bearing than ever since.

As to the hybrids with foreign varieties, though but few have borne, I have nothing

very encouraging to report. Several of them have borne fruit—but none have yet met my expectations or wishes.

Of hybrids, as well as seedlings, a large number prove weak, unhealthy, tender, and subject to mildew. All such are unworthy of any attention, for in seedlings such defects appear radical, and no treatment that I have been able to give has ever removed them.

In planting seed, I have never used any more than two years old, but have found these to give nearly as well as the first year. They were kept, however, during the first year in corked vials, and not subjected to freezing till the second year.

In addition to those above named, I have re-hybridized several of Mr. Rogers' Hybrids with Black Hamburg, and other foreign grapes,—but I believe none of the seedlings from these have been able to endure the Winters, and have died out the first winter they were left exposed.

I might mention many other particulars as to the effect of hybridizing upon the foliage and habits of growth of our native varieties, but will not at this time further tax your patience, or that of your readers. I may, perhaps resume the subject hereafter, as further facts present themselves.

Delaware, Ohio, May 10, 1865.

A CHAPTER ON THE WREN.

BY G. P. DISSEWAY.

"They have no team, and have no plough;
They neither reap, nor sow, nor till,
Yet God in heaven feeds them still."

Herrick.

I LOVE the Wrens. Birds, from the earliest times, have excited the attention and the admiration of man,—a thousand familiar songs and rhymes greet them along their paths, as they pass by us on their airy journeys. Spring, now so transcendently beautiful, would be mournful without birds, like winter, is more desolate and gloomy by their departure.

The Wren is an active, lively, familiar little bird, and shares with the Robin, especially the affections of the country people. Its flight is direct, from bush to bush, and feeding principally upon insects, and occasionally seeds and fruits. In the spring and summer time, the male sings a very sweet song, exceedingly loud and rich, especially when we consider the smallness of the pipe producing the cheerful notes.

The flight of a bird truly seems supernatural, and this wonderful power by which the birds are lifted beyond the sphere of every day life attracts us most. But song

is the bird's mystery; and we can hardly fancy to ourselves the free rovers of the air not endured with some force. The dumb bird, is to me, as it were, a lonesome sight. What a world of tones between the hoarse cawings of the black Raven, and the enchanting song of the Nightingale,—the shrill cry of the Osprey, as he swoops upon his doomed prey, and the cooings of the Turtle Dove! How manifold, too, are the accents of a single bird's voice! Now altered quickly, now soft and long drawn out; then fine and sharp, with sudden stops. Thus it has the power alike to express the feelings of content, love, or of sorrow and jealousy; in short, of every joy and every grief.

Who does not remember the delight, which the earliest greetings of the Lark awaken within our bosoms, with the coming spring? That refreshing feeling pervading the heart, when, after cheerless wintery days and nights, the first sunbeams arouse this active race to new songs.

It is clear, the birds give a melodious voice to the fair face of nature, and along

with it, that indescribable charm, which nature's beautiful works can exercise over the minds of men.

The Wrens are very familiar, seeking to be near the habitations of men, although they do not exhibit the same confidence as the Robin, generally concealing themselves very quickly when too closely approached. Wrens pair about the middle of the spring, and early in April, begin to construct their nests. These they place principally in holes and crevices of walls, banks or trees; on thatched roofs, and among climbing plants. They are lined with feathers, and contain from 7 to 12 eggs, and have two broods a season. It is calculated that these little beings bring food to their young, not less than two hundred and seventy-eight times in a day, with some insect every visit!

Our American *House Wren* is migratory, coming from the south early in May, and builds its nest at times in the wooden cornices, under the eaves, and always in the little houses prepared for them. We are very careful to provide these welcome animal visitors, every variety of accommodation in the way of wreneries. We sometimes imagine, they are so well pleased with them, as to return to the same rural dwelling, among our honey suckles or running roses they occupied the previous season. We repair these bird cottages regularly every spring, carefully as we do our own rural abode. But take a peep inside of them; who can help admiring the internal domestic arrangements, composed of so many different materials, and arranged with such marked skill and labor.

The greatest wonder is, that the whole is done without any other tools except a little beak and two very small feet.

Man can erect magnificent edifices according to the rules of art, and it is no wonder, for reason guides his hands. But who has taught the Wren that she is to lay eggs, and must have a nest for this purpose? Who, that it must not be too large or too small for her rising family? Who teaches

her the exact time, so that she never lays her eggs before her nest is finished? All that has been said in answer to such questions, is unsatisfactory to us, and does not account for these mysteries, wonderful as INSTINCT is. Let us not be contented with a solution from this mysterious source.—Instinct should be only the first step to more exalted and sublime meditations. We cannot properly say that *nature* teaches the birds this art, for if you separate nature from its GREAT AUTHOR, it becomes a word without meaning. Rather should we glorify God, the wise CREATOR, and acknowledge that HE alone gives wisdom, skill and industry, even to the fowls of the air.

We all remember our nursery rhyme:

"How doth the little busy bee,
Improve each shining hour."

And we can, with great propriety, adopt the sentiment to the WREN.

"How doth the little busy Wren,
Improve each shining hour?

For a more industrious small bird we do not know. It is constantly on the wing, or busily engaged in finding insect food, as it hops from twig to twig. The Wren will richly repay you rents for his houses, in the destruction of myriads of larve and insects, colonies on your vines and fruit trees, unseen by you, but plain to his bright, piercing eyesight. We often watch his rapid motions with his useful bill, while engaged in this good work, and at the same moment, beguiles the hour with a cheerful song. He is a great songster, in his line, pouring forth his cheerful notes early and late, raining or shining. While I write, an easterly storm is raging, but my welcome, cheerful kitty Wren, every now and then pours forth his joyful spring notes, near where he and his lady love are evidently preparing for house keeping.

We love the WREN, and advise all to give him a pleasant home.

THE CLOVE, S. I., May, 1865.

EVERGREENS.

BY I. H., LONG ISLAND.

How often are we reminded of the uncertainty of terrestrial things. About the first of Spring we took a walk among some new varieties of evergreens, and were delighted with the fresh green of their appearance. They looked very promising, in fact all we could wish.

The next day was unusually warm, the thermometer ranged about 80° in the afternoon. In a day or two we again looked at our evergreens,—what a change! The pretty green was turned to a dingy brown, and all the outside of the trees were scorched.

We have had much cold weather this winter, and but little snow here, so it was not the snow or the cold, for they had passed through a temperature of 10° below zero unhurt. What then was the cause of the browning of trees that came from the western coast of America—the *Thujopsis borealis*, *Lawson's Cypress*, &c.? Last year the *Cryptomeria Japonica* were all killed after a hot day in March, so were a few others injured. We think that the roots had not begun to draw up the moisture from the soil to compensate for the evaporation caused by an unusual warm day, and they were scorched as if placed in an oven.

We know they withstand the hottest days of summer without injury, for the resinous sap diluted by the moisture drawn by the roots from the soil, supplies all the demands of evaporation upon it. But when exposed to such sudden elevations of temperature in the latter part of winter or early in spring, before the sap is in active circulation it must burn. Box and other evergreens on the north side of the house, or other cool sheltered places was unhurt. We think the cold or the freezing of last winter, or any winter had nothing to do with it. Excessive cold kills the fruit buds and tender deciduous trees and plants, but we think not the evergreens. It is the

heat and not the cold, and then only by great and sudden changes.

When the trees are small a slight protection from the sun's rays will suffice, but we believe our old well tried friends, the Pines, Hemlocks, Norway and White Spruce, American and Siberian Arborvitæ, among larger trees, and the Swedish Juniper, Erect Yew, and a few others, perhaps will give the best satisfaction. If we plant good specimens of the older kinds, take good care of them and give them the needful training they are beautiful enough for any one. Too few attend to the training of their evergreens after they are planted. In selecting evergreens, the oftener they have been transplanted the better roots they will have, and the more compact will be their growth—a very essential condition. We do not care so much about the top of a tree, for if wrong it can be righted by cutting back and training; but if deficient or wanting in the lower branches, and the upper branches extend beyond, nothing but severe trimming and some years retarding will bring it to a proper shape.

If a pine grows long and spindling cut off the leader on the top, and the leaders on the first and second tier of side branches. Select one of the branches that can be best spared and tie to the stump of the upright shoot. Nipping out the central bud when two or three inches long will answer to make the tree bushy. Spruce and Firs will form leaders for themselves, and if the leader shoots up too long, or the upper side branches extend out too far, so as to over-top the lowest ones which they should never do, cut the limbs back the same as we would for a fruit tree or flowering shrub. Spruces, Hemlocks and Arbor Vitæ can be trained singly by the use of the shears, as we want them, or in the form of hedges as easily as deciduous trees or bushes.

LETTER TO MY COUSIN SELINA.

DEAR COUSIN' SELINA:

I remember my promise, when I left our home away up country, to write you from the city during my visit, and give you sketches of some things which should seem most note-worthy, and most likely to interest you. I have visited the great libraries of the great metropolis—the Astor, the Society, the Historical, and the Mercantile—and bewildered myself among the multitude of books, very many of which are strange to me, even in name. I have lounged in and out at Schaus', Goupil's, and the Old Düsseldorf, and enjoyed, with a new and intense delight, their exhibitions of art. I have, for several days, been one in the crowd at the Fortieth Annual Exhibition of the National Academy of Design, in their new and unique building, now first occupied. I have foregathered there, not in person, but as they have expressed themselves on canvass and in color, with Bierstadt and Church and Durand and Huntington and Kensett and Weir, and with a score of other and younger artists, until I seemed almost willing to forget the fair face and aspects of nature in my admiration of art, and for the moment felt that my heart would never again leap up when I got back into the still and solitary country, and beheld the rainbow in the sky. In all this, as you may readily understand, I have literally reveled. The only material drawback to me, who have lived all my life, as far as bodily conditions are concerned, in the secluded country, and visited galleries and libraries only in fancy or in dreams, has been that my mind has been overcrowded with objects for thought and admiration; my inspirations have been perplexed and my sensations confounded by the *embarras des richesses*.

But I do not intend to undertake now any description of these objects of interest which I have named. I have made, indeed, some memoranda, and arranged as well as

I can the order of things in my memory, not forgetting, as you gave me charge, my regular records in my diary, so that, when I return to the country, I shall be able, perhaps, to afford you some entertainment and pleasure with my recollections of what I have seen and enjoyed.

However, yesterday I thought again of the "rainbow," and of the green and beautiful country, the fresh air, the bright sunshine, and the song of birds, and I resolved to spend the day in the Central Park. It was not my first visit to those delectable grounds, and I am the better able, therefore, to undertake to sketch for you some of their principal charms; and, as the weather to-day is too unpropitious for outdoor explorations, I shall endeavor to give you some account of what is to be seen there. I send you, however, no minute description or statistics, because I am sure you have not forgotten the pleasant papers on the Park which we read together in the last year's numbers of the *HORTICULTURIST*.

You are aware, doubtless, that the Park contains about eight hundred and fifty acres, one fifth of which is water surface, lakes and ponds and pools. The total cost of the land and construction, to this date, is about nine millions of dollars.

These magnificent grounds are open to the public, and the people are allowed free access at all times. They are visited daily not only by the wealthy classes who can drive or ride, but by many thousands of those whose lot is cast amid the toil and turmoil of the great city, who have thus the privilege of refreshing their eyes and senses with the floral and other treasures on which so much cost and care have been expended. These grounds, you understand, are quite extensive; and nature has given them such diversity, and art has varied them with such beautiful slopes and soft lawns, and planted them with such varieties of trees and shrubs and flowers, as to render

them wonderfully attractive to every lover of the beautiful. I cannot tell you now whose was the brain to plan, whose was the experience to carry out the plans, whose was the fostering care that crowned those plans with such complete success. Several superintendents and architects and eminent landscape gardeners have been employed; but there is an evident unity of design and plan which indicate that the cultivated taste and artistic eye for pleasing combinations of forms and judicious distribution of colors, and a true judgment in grouping and symmetry, have not been wanting. Woods, lakes, pools, fountains, clumps of trees, single trees, masses of shrubs, all have been duly arranged, and as it were made to fall into their respective positions in the landscape; and no slight experience or imperfect knowledge of the harmonies of forms and colors could lay out a thousand acres of undulating park, so that the wood and water should be made to assume their most picturesque forms, and a million bright blossoms of every hue be gathered into their proper places. All this seems to have been provided for and duly regarded, so as to take full advantage of the capabilities of the ground; and the result is a triumph of landscape gardening, creditable alike to the fine taste and the practical skill of those who have had the superintendence of the Park. And thanks to the large munificence of the city of New York, these beauties are freely accessible to the tens of thousands of the industrious classes, whose long days of toil amid brick and smoke and steam make a visit to the fresh loveliness of the country a healthful medicine to mind and body.

As we stroll through these grounds, and gaze upon the many flower-beds, each for the most part filled with but one particular kind of flowering plant or shrub, but all one blaze of beauty; as we admire the borders, composed of lines of flowers, crimson, orange, blue, white, purple and scarlet, all in their proper season and place; as we feast our eyes upon these glowing colors and rich masses of green shrubs, and spaces

of smooth turf, we cannot doubt for a moment that the expenditure of these millions has been both wise and beneficent.

I cannot go into much detail as respects the variety and richness of this collection of trees and shrubs and plants; but I must mention that there are valuable specimens of the Pine tribe, some of which have been procured with considerable cost. Among the thirty specimens of the Pine, we find here the *Pinus macrocarpa*, and several others whose *habitat* is in the Rocky Mountains, the *P. Montezumae*, *Ayacahuite*, *Banksiana*, *Excelsa*, *Insignis*, &c. But I am going more into detail than I purposed. I must leave description, and anticipate improvements of which there are no special indications as yet, but which undoubtedly are embraced in the plans of the commissioners.

Cowper says, "Who loves a garden loves a green-house too"; and it is to the greenhouses and conservatories which are yet to be added to the Park that a large degree of interest will be due. Certainly to one who, on a lovely summer's day, looks upon the Central Park as it is, upon the flower-knots, each filled with its own peculiar color, and scattered like rainbow drops over the wide expanse of velvet lawn; to one who observantly rambles through such grounds, drinking in deep draughts of delight at every step, as the varied beauties of the spot pass before him—its pools, and lakes, and fountains, and cascades, its ravines, and caves, and rocks, its architectural structures and statuary, its clumps of fine growing trees, its plantations of rare and beautiful evergreens, its thickets of rhododendrons and azaleas, its undulating borders of herbaceous plants, and all its thousand triumphs of nature and art, combined and harmonized—there might seem to be small need of anything more. It may well be pronounced perfect in its present state. Any seeming deficiency will be amply remedied by the natural growth; and when these transplanted trees shall crown themselves with a half or a quarter century's increase, the

Park will be the realization of a terrestrial Paradise.

But, O Messrs. Commissioners of the Central Park—I should say, if I were writing to them, instead of my sweet cousin Selina—O give us, the public, green-houses and conservatories too! Cousin, let us step into this great Conservatory, crammed with bloom, with climbing plants wreathed around its pillars and girders, and swinging their festoons on high; the orange-house, with its living bridal bouquets and golden globes; the green-houses with their roses, and heaths, and begonias, and gloxinias, and camellias, and a thousand and one floral attractions; the vineries, and pine ries, and peachries, and orchard houses, rich with luscious fruit; and the stoves, hot and damp, and overpoweringly fragrant

with the odor of Cape Jasmine and delicate exotics, with fairy-like ferns, and rare lycopodiums, with water-lilies and other aquaria floating in their hot tanks, with dwarf trees, and tussock grasses, and prickly cactuses, and strange orchids, with their curious blossoms like winged birds, butterflies, and insects. Ah, what a world of marvel and beauty is here!

But the rain is over, and the sun is shining out brightly and warmly in the western heavens. An engagement to dine and sleep with my Westchester cousins compels me to close my letter to my cousin in the far-away homestead. With love to uncle and aunt and cousin Washington, I am, as aforetime,

Your affectionate cousin,

REUBEN.

NEW YORK, June 9, 1865.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. WOODWARD, 37 Park Row, New York.

CLEVELAND, Ohio, 6th June, 1865.

It's dangerous writing you, Messrs. Woodward, for you have a queer way of printing one's scribblings; and the first one knows of his hasty remarks is that it has been printed, and then somebody has been drawn out into the writing of a long article, &c. Well, never mind. If they all tell as much of plain truth as our friend Husmann did about grape growing, or rather about preparation of ground, why, let them write.

I have mislaid my copy of the *Horticulturist* for May, or I would touch upon an item or two in that article; but I here give Husmann, and all other good grape men, notice that I am going to speak out some day; and as I see somebody out West wants to know what I think about locations and soils for grapes, you may tell him I'll write.

But I now say that, while the grape can be made to grow and fruit almost anywhere and in almost any soil, it is not every soil and location that will prove profitable as vineyard. I will say one other thing also now, viz., that expensive trellises of posts and slats, with wires running up and down across the slats, and training grapes thereon, may do for fancy garden culture, but will not answer for vineyard, both by reason of expense and the actual labor of tying and pruning. By-the-by, every man, it is said, is good for something; so, in our grape meetings, it is said I am good to draw other people out, by question or assertion, and now I want to know who, among your readers, has ever tried tying the ends of long canes of the grape together, giving each vine two canes of six feet each, placing

one stake at the vine for new wood to be tied to, and one stake half way between each vine to support the tie of the two connecting canes that are to fruit.

And again, who has succeeded in bringing an apparent barren vine into fruiting by cutting in of its roots and pruning it back just after the first leaves have formed?

Early Purple Guigne Cherry and some others are now ripe and fine; but most of the varieties, as Elton, Downton, Bigarreau, &c., were materially injured by a late frost.

For three good cherries take Early Purple Guigne, Rockport and Red Jacket; and for prairie or other very rich soils, let them be worked on *Morello* stocks.

Strawberries are showing fine; but if the weather keeps hot and dry as for the past week, they will not last long.

By the way, how is it that all my Russell's Prolific and Buffalo, show strictly pistillate flowers? I am sure I read that they were termed perfect.

Again, will some one tell how to pick out the plants or fruit of the two *named* sorts above, one from the other? I suppose there is a difference, because honorable men have said so, but I can't see it.

Pears are showing fine, and if nothing happens I hope to send you fruit of a new very early sort, a seedling never yet let out. I would say it is "excellent," but that word is attached to nearly every pear in nursery catalogues. However, will taste them, and then coin a word perhaps.

Apples only small crop.

Yours, F. R. ELLIOTT.

MESSRS. EDITORS:

I have been sadly disappointed with my bed of Russell's strawberry this season. Having been repeatedly assured that they were self fertilizing, I planted them in my garden at a distance from other varieties, wishing to keep them unmixed. They flowered abundantly, but did not set the fruit. The flower I examined carefully, but I could not detect, even with a magnifier, the *capsula staminis*, which they are

said to possess. The anther is so exceedingly minute that it requires some faith to discover it; and I pronounce it "very uncertain." Were the plants genuine? Yes, for, after the bed above described was planted, I had fifteen or twenty plants left, which I set on a border separated by a garden path from Wilson's, Albany; and these few plants are Russell's Prolific, bearing in quantity either Wilson's or the far famed Agriculturist. My advice is to place a staminate among the Russell, to entitle it to its adjective *prolific*.

M. V. M.

Hardpan, June 15th, 1865.

PRINCE'S NURSERY FOR SALE.—We call the attention of our readers to the advertisement of Messrs. Prince & Co., of Flushing, who offer for sale their old and well known Nursery. Flushing is one of the immediate suburbs of New York, easily reached at all hours, by boat and train, and is an attractive and convenient locality to live in.

Comparatively speaking, the vicinity of New York has never had anything like an adequate advantage in local Nurseries; they are few and far between, and owing to small competition, their proprietors have become men of solid and substantial wealth. So fine a field, and so vast a demand makes the environs of a great business centre like New York, superior to most other localities for the nursery trade. An established and well known nursery is seldom in the market, and those who are looking for a good opening in this line of business, should investigate the offer of Messrs. Prince & Co.

THE MULBERRY.—When every other tree in garden, wood or wold has donned the green vesture of spring, one still remains in "naked majesty," as Adam of the Eden. The cold night winds nipping so many tender buds which had been too early lured forth by transitory noontide sunshine, beat harmlessly upon the mulberry's sapless bark; and not till the last spring frost is

over, and cold has finally yielded to the mild persuasions of approaching summer, does it abandon its bare-branched security, and suffer its young leaves to venture forth, gladdening the watchful gardener with an unerring token that his hitherto sheltered nurslings may now be safely trusted in the open parterre.

But though the foliage displays such singular reticence as regards making its first appearance, it might offer the same kind of apology which was tendered by Charles Lamb, when on being remonstrated with for coming to business so late in the morning, he replied, "but then remember how early I go away in the afternoon." For though mulberry leaves are the last to put forth in spring, they are the very first to leave in autumn, the least frost bringing them all to the ground.

GRASSES.—In the early summer our fields and meadows are feathered by numerous flowering grasses, which form objects of great interest to the botanist and the artist. Yet comparatively few avail themselves of the great pleasure which these elegant plants offer. Flowers are eagerly culled for the tasteful bouquet, but seldom does a group of flowers present so light and graceful a contour as a group of grasses. Ferns and seaweeds are patiently studied, and grasses are neglected, though these latter are much more easy of classification, more beautiful as dried specimens, and as valuable in cultivation, and in our drawing room vases. These graceful plants, however, are gradually receiving more attention from the fancy gardener, especially among the English cultivators. Bunches of Pampas grass wave their pennons on the English lawns, and lift high their panicles of glossy florets; and the Hare's tail, Panick and Quaking grasses alternate with flowers in the gay borders. In Germany and Switzerland, we find grass bouquets in every drawing room, and dried ones for the winter, retaining their own soft and delicate coloring.

A grass is the simplest form of a perfect plant. From a fibrous root a slender stem shoots up, clothed with alternate leaves, which are long and narrow, and have the veins running side by side from one end to the other. In the true grasses the stems are round and hollow, and the sheathes of the leaves open at one side; but in their cousins, the sedges, the stems are solid and angular, and the leaf-sheathes form perfect cylinders. The highest leaf on the stem of the grass, acts as a cradle for the buds until they are sufficiently formed to emerge to the open day.

THE GARDEN.—"My God, my garden, and my grave, is now all I have to live for," was once said by a pious churchman who had spent a toilsome life, and was ready to depart with Simeon's prayer upon his lips. In the quiet of his garden there was much to attune his heart to the great change through which he must soon pass, through the grave to the ineffable presence. In his garden, he would be surrounded by "floral apostles,"—as Horace Smith called them—that would silently preach to him many lessons of truest wisdom; for, in the words of Allan Cunningham :

"There is a lesson in each flower,
A story in each stream and bower;
In every herb on which you tread,
Are written words, which, rightly read,
Will lead you from earth's fragrant sod,
To hope, and holiness, and God."

Indeed, the occupation that is to be found in the garden, brings not only health to the body but to the mind also. This is admirably illustrated in an instance to which we wish to call the attention of such readers of the *HORTICULTURIST* as have occasion to witness the numerous examples of juvenile depravity in our great cities, and are interested in their reformation.

In the eastern suburbs of London, a professional horticulturist has long since adapted the benevolent and praiseworthy scheme of giving employment in his gardens to those young thieves who wish to leave off their sinful course of life and take to

honest labor,—labor which no one seems disposed to give them, and the lack of which, therefore, throws them back into their old evil ways. This humane person comes to the rescue of these outcasts, and sets them to work in his gardens, where there is no sedentary occupation in a close and stifling atmosphere to repel them at the outset of their undertaking; but where there is plenty of fresh air, labor enough to procure appetite for their meals, sufficient society to be pleasant without being pernicious, (for there are wise rules on this point, to prevent the boys from herding and plotting together and keeping up the contaminations from which they have been rescued,) and sufficient freedom to make them feel otherwise than prisoners. After a time of probation satisfactorily passed, they are entrusted upon errands, and sent to pay and receive bills; and there is scarcely an instance in which the trust reposed in them has been found to be misplaced, but in the majority of cases, the judicious treatment, and the gentle delights of the garden have completely humanized the little outcasts, and have fully reclaimed them from those “gardens of guilt” in which their early years were passed. Such a work as this is truly philanthropic and christian.

THE FRUIT AND CROPS IN THE INTERIOR.—Inquiry among the fruit-growers and farmers affords very pleasing information as to the prospects of the season in their important departments of industry and production. Fruit of all kinds most cultivated hereabout promises well. The trees have withstood the Winter and have budded in a promising manner. May has opened mildly, and there is reason to hope that no frost will blight the tender fruit. Bountiful crops of peaches, apples, pears, cherries, plums, grapes and strawberries will yield those who cultivate in Western New York, hundreds of thousands of dollars, and afford pleasure to all who consume these luxuries that Providence permits us to enjoy in this favored climate. The reports from the fields are

no less favorable than from the orchards. The farmers began their Spring work pretty early, and accomplished more in the way of planting and sowing in April this year than in any that has preceded for a long time. The weather has been opportune. Owing to the scarcity of help more time was requisite. But little ground will go uncultivated for want of labor, as the hoeing, haying and harvesting times come along there will be plenty of laborers from the returning army at the South. The fall-sown crops—wheat, rye and barley—promise well. The Winter and the Spring were as favorable as the farmer could desire. We may congratulate the farmers and all others of Western New York—for all are interested in the success of the crops—on the prospect the season affords.—*Rochester Union.*

VEGETABLES FOR THE LONDON MARKET.—In the gardens about London, according to the statement of Mr. Loudon, the following are the chief varieties of vegetables cultivated for market:

Of the *Cabbage* tribe, seven varieties,—the white, the red, the savoy, the brussels, the borecole, the cauliflower, and the brocoli.

Of the *leguminous* plants,—the pea, the kidney bean, and the garden bean, with their endless sub-varieties.

Of *cocculous* roots,—the potato, the Jerusalem artichoke, turnip, carrot, parsnip, red beet, skirret, scorzonera, salsify, and the radish.

Of the *Spinaceous* plants,—the spinach, orache, white and sea beet, the wild spinach, New Zealand spinach, the sorrel and herb patience.

Of the *alliaceous* roots,—the onion, leek, cive, garlic, shallot, and rocambole.

Of the *asparaginous* tribe,—the asparagus, sea kale, artichoke, cardoon, rampion, and alisander.

Of the *acetarius* tribes,—the lettuce, endive, succory, celery, mustard, wood sorrel, corn salad, garden cress, American cress, water cress, and the small salads.

Amongst the *pot-herbs* and *garnishings*, are the parsley, purslane, tarragon, fennel, dill, chervil, horseradish, nasturtium, marygold, borage, &c.

Amongst the *sweet herbs*, are the thyme, sage, clary, mint, marjoram, savory, basil, rosemary, lavender, taney, and cotmary or alecost.

For the uses of confectionery or medicine, the following plants are cultivated:—the rhubarb, gourd, angelica, anise, coriander, caraway, rue, hyssop, chamomile, elecampane, liquorice, wormwood, and balm.—The tomato, the egg plant, capricum, and samphire are also sometimes grown.

"THE GARDEN is a bound volume of agricultural life, written in poetry. In it the farmer and his family set the great industries of the plough, spade and hoe in rhyme. Every flower or fruit-bearing tree is a green syllable after the graceful type and curse of Eden. Every bed of flowers is an acrostic to nature, written in the illustrated capitals of her own alphabet. Every bed of beets, celery or savory roots or bulbs, is a page of blank verse, full of *belles lettres* of agriculture. The farmer may be seen in his garden. It contains the synopsis of his character in letters that may be read across the road. The barometer hung by his door will indicate certain facts about the weather, but the garden, lying on the sunny side of the house, marks with great precision, the degree of mind and heart culture which he has reached. It will embody and reflect his tastes, the bent and bias of his perceptions of grace and beauty. In it he holds up the mirror of his inner life to all who pass; and with an observant eye they may see all the features of his intellectual being in it. In that choice rood of earth he records his progress in mental cultivation and professional experience. In it he marks by some intelligent sign, his scientific and successful ceremonies in the cornfield. In it you may see the germs of his reading, and you can almost tell the number and nature of his books. In it he will reproduce the seed-thought he has

culled from the printed pages of his library. In it he will post an answer to the question whether he has any reading at all. Many a nominal farmer's house has been passed by the book agent without a call, because he saw a blunt, gruff negative to the question in the garden or yard.—*Ezra Burritt.*

FLOWERS AND PERFUME.—Unlike many usages of remote antiquity which are still preserved, the employment of perfumes is in no wise indicative of barbarism. The most refined nature delights in the sense of smell, and the more delicate the human organism the more exquisite is the enjoyment. For the most part, choice perfumes are derived from flowers, or vegetable productions, though several varieties highly esteemed are the product of the animal and mineral kingdoms, and through the aid of chemical science, perfumes are extracted from substances associated only with the most repulsive odors. For example, butyric acid, the product of rancid butter or putrid cheese, imparts the flavor of a luscious pineapple; the fetid fusil oil, obtained in rectifying liquors, becomes an essence of pears; the noisome oils of gas tar are made to yield the flavor of bitter almonds, being often preferred to the genuine article for confectionary and culinary purposes. But as a general rule those odors which are intended to gratify the sense of smell, are instinctively suggestive of whatever is beautiful in the world of flowers, and are regarded as an ethereal form of floral creation. Their fragrance brings to mind

"Gorgeous flowrets in the sunlight shining,
"Blossoms flaunting in the eye of day."

France, Switzerland and Italy are the most prolific of flowers, as a source for the supply of those who distill essences. In some places the culture of flowers for this purpose is on an enormous scale. The flower harvest gathered and sent to the towns of Cannes, Grasse, and Nice, in France, exceeds 2,500,000 lbs. per annum. In Cannes alone the quantity manufactured is as follows: Orange blossoms, 1,475,000 lbs.; roses, 530,000 lbs.; jasmine, 100,000

lbs.; violet, 75,000 lbs.; acacia, 45,000 lbs.; geranium, 30,000 lbs.; tuberose, 24,000 lbs.; jonquil, 5,000. In Grasse the product, no doubt, is still larger, as this town recently had no less than seventy establishments engaged in the manufacture of perfumes, and the other two about thirty. The process of distillation is very simple, the odor of boiling flowers being condensed with the steam, in the form of "ottos." Besides this, a favorite method is the process of *enfleurage*, or maceration, in which grease is repeatedly charged with flowers, till the precious odor is absorbed to the requisite degree. The flower farmers of the Var cultivate many acres, from which the crop is gathered by women and children, then weighed in the laboratory, where clarified suet, lard, &c., is accumulated through the winter season, and afterwards spread on glass frames like a window sash, to receive the repeated layers of blossoms as matured from day to day. The grease being inflowered in this way, is at last scraped off, strained, and packed in canisters for the market. Dr. S. Plesse, whose work on perfumery enjoys a wide repute, lectured upon this subject a few weeks ago, before the Royal Horticultural Society of London, giving a great variety of interesting facts, such as the effect of blending different blossoms, the method of cultivating roses, cassie, jasmine, &c. An acre set with 7,000 rose plants is expected to yield 5,000 pounds of petals worth say £30. Cassie, after the third year, yields from £30 to £40 per acre. In cultivating jasmine, 8,000 plants are set to the acre, and 60 lbs. weight is yielded by every 1,000 plants after the second year. The tuberose is the most difficult flower to grow, but is the most profitable, a good plantation lasting seven or eight years. The orange in full vigor yields an average of 25 lbs. weight of blossoms annually. The violet is so susceptible to the sun's rays, that on the farms at Nice this delicate plant is grown under the shade of orange and lemon trees, or where protected by walls. A surface of land equal to one acre, yields 180 to 200 lbs. of flowers, valued at two francs the

pound. Dr. Plesse stated that in France, this traffic has risen to the annual value of £3,000,000. England has always been famous for the production of lavender. The two Sicilies export the oil of lemon and bergamot in large quantities. The United States contributes essences and essential oils, such as peppermint, wintergreen and sassafras, but this branch of industry with us has as yet scarcely attained an embryo existence. The climate is not remarkably propitious for flower culture, and the competition from abroad in the shape of imported oils and essences is great. The "manufacturing perfumers," or those whose speciality is to convert these substances into the varied forms which enter into domestic consumption, chiefly centre in London and Paris. The number of establishments of this character in London is between forty and fifty, and in Paris there are twice as many. The manufacture of fancy soaps is a leading feature. The United States have for a long time been profitable customers, but of late a high tariff imposes conditions before unknown, and which, in process of time, are likely to effect great changes. Among American cities, Philadelphia has taken the lead in this department of enterprise, several manufacturing firms having invested largely, and from these have originated numerous offshoots of less consequence, but which contribute, in the aggregate, perfumes, soaps, and other toilet goods, considerable in amount. New York has four heavy firms which enjoy a wide reputation for this description of goods. Colgate & Co., last year consumed oils and essences in their business to the extent of several thousand dollars. Lanman & Kemp manufacture some thousands of gallons of Florida water, chiefly for the South American trade, and others might be mentioned.

It will not be strange if eventually flower farming in this country lends its enchantment to the landscape and its odors to the breeze, though at this rudimentary stage of the business, it is difficult to compete with the cheap labor and more propitious climate of southern Europe.—*Tribune.*

THE COST OF NEW PLANTS.—It is something fearful to contemplate the price these plants cost. I do not mean the guinea and a half you gave for that new medinilla, nor even the \$20 you gave for that splendid mass of a new orchid; no, I mean the price in men's lives. It is worth while to think, as for the first time you contemplate a plan, which has just gained the gold medal, what the man had to go through who sent it home to increase your pleasure and mine. He stood face to face with death for months—for years, perhaps; with death in all its most terrible forms. He could, it may be, count his attacks of fever by the score, like Livingstone, and calmly write home to his friends that he was just recovering from his forty-eighth attack. He may have been in peril from wild beasts of all descriptions, and dependent for the supply of his daily wants upon natives, scarcely, if at all, less ferocious than the wild animals. His home was a hut built with a few branches in the depth of a primeval forest; or he swung his hammock between two trees, and slept there, with the sky for the only roof that covered him. What he found to live upon we had better not inquire. One collector told me he was obliged for weeks to strain every drop of water he drank through the only fragment of a shirt he had left. You may safely set these men down as 'total abstainers,' if you expand the meaning of the term so as to include not only those who drink no intoxicating beverage, but who also abstain totally from all the so-called comforts of life. Perhaps the greatest comfort one living in a foreign land can enjoy is to receive a letter and a newspaper from home, but Sir Rowland Hill's emissaries do not traverse the districts into which the botanical collector has to penetrate, and so even this pleasure is denied him. Very many botanical collectors have died far away from any civilized spot; a long list of these victims could be given, their only monument being the plants which they have introduced.—*Hibberd's Gardener's Magazine, Eng.*

THE HOMES OF MERRY ENGLAND.—It would seem, from recent inquiry and examination, that the dwellings of a large portion of the laboring rural population of England afford very little, if any, more decent and comfortable accomodation than the miserable tenement abodes which disgrace New York City.

Dr. Hunter was last year commissioned by the Privy Council to inquire into the house accomodations provided for agricultural and other laborers in rural districts. He examined over five thousand different dwellings in various counties, and inquired into the local circumstances of each district. His report has just been published, and we find the following summary of it in the *Pall Mall Gazette*. It is quite mournful and miserable enough that the heterogenous population of all sorts, of natives and foreigners, in our large cities, should be subjected to such physical and moral degradations and demoralizations as exist in the over-crowded and offensive regions which they inhabit. But it is a much sadder and more revolting sight to see the agricultural laborers and the various classes of operatives in the rural district of a great nation, thus herded together in the foulest air and in the most indecent and demoralizing circumstances, while there is plenty of space, and of blessed sunshine, and of pure atmosphere, to which they are indubitably entitled.

Of 5,375 laborers' cottages, Dr. Hunter found that 2,195 contained only one bedroom. On the average there were four persons to each bedroom. The open villages are the favorite investment of cottage speculators, who buy scraps of land, which they crowd as densely as they can with the cheapest of hovels. Dr. Hunter furnishes a lengthy and detailed account of the state of the cottages throughout England; but Mr. Simon, the medical officer of the Privy Council, in his preliminary remarks, indicates some typical cases. In Wrestlieworth, Bedfordshire, Dr. Hunter visited seventeen houses, only four of which had more than one bedroom. The single-roomed

cots contained three adults, with three children; a married pair with six, with five or with four children. At Dunton, in the same county, Dr. Hunter found six adults, with four children, sleeping in one cottage bedroom, and paying for it £3 10s. a year. Only one cottage out of fourteen visited in the village had two bedrooms. A little outside the village stands a house for which the owner until lately received 25s. a year. "The lower nine inches of the door having gone through sheer rottenness, a few more bricks were ingeniously drawn against it from within after shutting, and a bit of matting hung on the side. Full half of one window was gone, glass and framework too. Here, without furniture, huddled three adults and five children. At Beenham, in Berkshire, he saw a house in which the bedroom had no windows, no fireplace, no door, nor hole, except that in the floor, by which it was entered. The walls lean together, meeting a flat ceiling five feet nine inches in width, and five feet seven inches above the floor. A man lately lived here with two grown-up daughters and a growing son; father and son slept on the bedstead, the girls on the floor." At Tinker's End, near Winslow, a bedroom is reported in which slept four adults with five children, and which measured eleven feet by nine, by six feet five inches at the highest point; another one, eleven feet seven by nine feet by five feet ten contained six persons. Each of these families had less than the allowance necessary to one single convict. No houses had more than one bed-room. In Great Hallingbury, Essex, there were thirty adults and twenty-nine children in twelve small bedrooms; but even this rate was exceeded in Langtoft, Lincolnshire, where in twelve bedrooms were lodged thirty-eight adults and thirty-six children. At Gamlingay, in Cambridgeshire, where a wretched hut not worth £20 can be let for £2 15s. a year, "eight and nine people were found in the single bedoomed houses, and in two cases six adults slept in a room with a child or two." At Madley, in Herefordshire, Dr. Hunter "called at a pair of single bedroom-

ed cots, let by the overseers at £2 a year; in one he found four adults and a child, in the other no less than eight adults with but one sleeping-room. These huts measured externally 12ft. 6in. square!" In Lubenham, Leicestershire, out of thirty-five houses, twenty-two had only one bedroom. In one bedroom lived a married pair, two boys of twenty and eighteen, a girl of seventeen, and a grandchild; in another, a married pair with five children; in another, six adults, with two children; in another, a widower, his two sons, his two daughters, and their two natural children. Again, at Stratton, Wiltshire, seven adults and one child slept in a single apartment. These are by no means exaggerated or extreme cases. They are only such as may be matched in any two or three pages of Dr. Hunter's long report, and may be taken as fairly illustrative of cottage life in England. To comment upon such cases, to point out the moral as well as physical evils which are inevitably engendered by a domestic existence passed in defiance of all the laws of health and all the rules of merest decency, would be superfluous.

BOOKS RECEIVED.

SERMONS PREACHED IN BOSTON ON THE DEATH OF ABRAHAM LINCOLN, together with the funeral services at Washington. Published by J. E. Tilton & Co., Boston, price \$2.00. This book, issued in an elegant and appropriate style, is one that should find a place in every library. A memorial of a prominent tragic event, and of the pulpit eloquence of the day.

MESSRS. TICKNOR & FIELDS have commenced the publication of a handsome series of Illustrated Books, in paper covers; the first number of which is "Household Poems," by LONGFELLOW, being a collection of many of his most admired verses, handsomely printed and beautifully illustrated; "Songs for all Seasons," from TENNYSON, will make the second number of the "Companion Poets for the People."

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THE
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PRUNING THE PEAR TREE.—(CONTINUED.)

If during the preceding summer, any lateral branches have developed feebly, then in place of this pruning you should cut them a little longer than their neighbors, or even leave them untouched.

It will be equally good practice to notch the trunk first above the branch. If the bud on which you had counted to have a branch has remained dormant, this *notching* would become still more indispensable. If in time there be no bud at the point where a branch would be necessary to fill a vacancy, you should insert there a graft. To this intent, if you have foreseen the vacancy, you might have developed below on the trunk a superfluous branch, which you could graft in during the year following its development, and this at the point where necessary to supply the vacancy—fig. 470. When the union is complete, you separate the branch from the trunk at A, and then cut it at B, below the point of union. When on the contrary, a lateral branch shall have acquired, despite the *pinchings*,

a disproportioned development, in order to diminish its vigor, you should cut it shorter



FIG. 470.—*Grafting in a Branch.*

than the others. If the difference of thickness which it presents is very marked, it

will be well to make a notch below its junction with the main stalk. These precautions should be observed during the whole period of the formation of the pyramid. During the summer which follows the second pruning, you apply to the shoot of the leading branch a treatment the same as that practiced on the original leader.

In addition, the shoots developed on the side branches are pinched to 12 inches from their starting point when they are only about $2\frac{1}{4}$ inches long, with the exception of the terminal shoot which is left intact, in order to furnish the prolongation of these branches. The pinching of these lateral shoots has the effect to diminish their vigor in such manner as to transform them progressively into fruit branches. It sometimes happens, especially with the shoots near the end of the branches, that a single pinching is not sufficient to arrest their growth, and that the eyes at the shoulder of the leaves at the end of the pinched shoots, start into fresh growth; in such case these must be pinched in like manner when they have attained a length of $2\frac{1}{4}$ inches. You must look out that the terminal shoots of the side branches, and the new shoots of the leader preserve a corresponding degree of vigor. The nearest shoots to the end of the leader will especially show a considerable development. You must watch these particularly, so as to prevent their hurting the growth of the leading shoot, which should always keep the pre-eminence, so as to prolong the main trunk of the tree. You attain those various results by means of pinching.

Third Pruning.—After the operations we have just described, the tree will present in the following spring the appearance of figure 471. The leader is cut at the same length as the preceding years at A.

The lower lateral branches are cut also as long as possible at the point marked by a transverse line. The upper branches are cut shorter, so as to favor the growth of the lower ones left favorably situated in respect to the natural flow of the sap. The

little shoots of the lower branches intended to be transformed into Lambourdes undergo the operation of breaking. (This operation described in another part of the work, is intended to throw the lower buds on the broken shoots into fruit buds, instead of making new growth; and this takes place by reason of the broken wood not healing as speedily as if cut by the knife.—*Translator.*)



FIG. 471.—*Third Pruning.*

You give to the tree during the summer the same attention as during the preceding years. If on the broken branches any vigorous shoots should start pinch them in like manner.

Fourth Pruning.—Figure 472 shows the changes which the tree has experienced during the preceding summer.

The fourth pruning differs from the others in several respects. You give to the shoots of the lower branches half less the length of previous pruning, because they are about to reach the limit which they must not be allowed to pass, and because they have otherwise attained a thickness which will ensure to them all the vigor they should have. The branches of the

second and third stories are cut at the point indicated by a transverse mark.

You leave them greater length than the preceding year, because the lower branches have less need of protection, and it suits in commencing to give the tree a pyramidal shape.

The first shoots of the branches of the first story which received during the preceding year the operation of *breaking*, are subjected this year to the pruning which we have previously prescribed for them. (Also, in another part of the work, this

almost entirely the limit which they ought not to pass, it will be requisite to allow their terminal shoots only a very limited development, so as not to employ uselessly the sap of the tree.

Fifth Pruning.—Our tree now begins to look up, (fig. 473) and the lower branches, being kept down under the effect of their own weight, give to the whole of the structure the pyramidal shape.



FIG. 472.—*Fourth Pruning.*

first shoot is cut off neatly, just above the second bud from the base, or the bud changed to a fruit bud, so as to replace the broken wound by a clean cut which will heal quickly.—*Trans'r.*) The little shoots starting from the branches of the second story are *broken* as were these of the first story. In fine the leader is shortened the same as in the previous years.

During the summer, you apply to the tree similar care as already prescribed.

We should remark, however, that the branches of the first story, having obtained

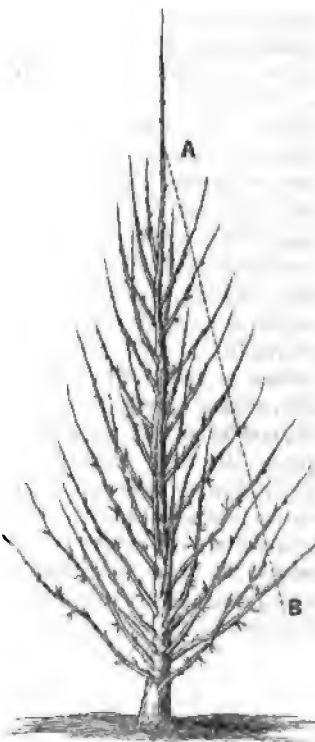


FIG. 473.—*Fifth Pruning.*

Some of the lambourdes of the lower branches have already fruited during the past summer. The pruning of this year does not differ from that of the preceding year; but in one point of view, that is to say, the branches at the base having already attained all the length they ought to have, you should no longer attend to their prolongation. In that respect you cut them short. As to the other branches they

ought all to be cut in such wise that their ends will touch the line A B, which extends from the ends of the lower branches to the tops of the leader after it has been cut back. The operations of the summer are, in all respects, the same as those of the preceding year.

Sixth and Seventh Prunings.—The sixth and seventh prunings differ in no respect from the fifth. Sometimes, in place of the seventh winter pruning, you ought to give to the lambourdes which have already fruited several times, the attention already prescribed.—(i. e. breaking and subsequent cutting.) Without this precaution these productions would have an indefinite growth, and cause confusion in the tree.

We would further add, that in proportion as the lateral branches elongate and are formed, they augment in weight and that, deviating them from their primitive direction, they approach too closely to the earth, or to the neighboring branches, and produce confusion in the tree.

In order to avoid this difficulty, you should go around among the trees after the pruning, and bring back the branches into their proper direction by means of fastening, and in such fashion, that there shall be an equal space between them all.

At the end of the seventh year, the tree will present the appearance as in figure 447. It has now acquired the proportions which it ought to maintain; that is to say, its

total height equals three times the entire diameter of its base.

If the ground occupied by the roots permit them to spread, the tree will have a tendency to enlarge its development. You may take advantage of this to give the pyramid grander dimensions. To this intent you will allow the leader to elongate anew, and also all the lateral branches, but in such wise as always to preserve between the height and diameter of the base the proportion we have above mentioned."

This treatise of our author which we have taken special pains to translate for our readers, we consider the most logical, philosophical, and intelligible of any that we have seen on the subject; and as such we commend it to our readers for careful study. There seems to be nothing left unsaid which ought to be said; and not a word too much on any one point. By studying this article, and putting its teachings in practice on his own trees, the amateur may attain a degree of proficiency and skill, that will soon exhibit itself in his trees; and he will moreover learn enough not to trust his pruning to other hands than his own. As to this particular form, our author says, "it is incontestibly the most advantageous; that by which the trees occupy the least space, yield the most abundantly, and show the longest duration. We do not know that we can recommend it too highly."

A PIG AND A COW.

I PROPOSE an odd horticultural subject; but the man who plants a garden, and builds a cottage, and carries in his thought the hope of shaking off the dust of the city under green trees upon his own sward-land, where some—nameless party—in white lawn, with blue ribbon of a sash (as in Mr. Irving's pretty picture of a wife), stands ready to greet him, after an hour of torture at the hands of our humane railroad directors—the man, I say, who looks forward to

all this, and enters upon the experience, thinks, sooner or later, of a cow and a pig—the pig to consume the waste growth of his garden, and the cow to supply such tender food for his growing ones as they most need.

The pig can hardly be regarded as a classic animal; Virgil, indeed, introduces him as crunching acorns under elm-trees—which account I cannot help reckoning as apocryphal. But he is a very jolly and

frisky little animal in his young days, not without a great deal of clumsy grace in his movements, and showing a most human zeal for the full end of the trough.

There is almost the same diversity of opinion with respect to the different races of pigs which our horticultural friends indulge in with respect to fruits. It is always an awkward matter to discuss the merits of different families, whether of animals who talk, or animals who only grunt or bellow. If the raw suburban resident, in whose interest I make these notes, has an ambition to rear a prize hog that shall outweigh anything his neighbors can show, and intends to keep his bin full of rank material, I should certainly advise the great-boned Chester County race, which with judicious feeding come to most elephantine proportions. If, on the other hand, he should prefer a dapper, snug jointed beast, that shall not be particular in regard to food, and which will yield him cutlets in which the muscular material shall not be utterly overlaid and lost in fatty adipose matter, I should counsel the sleek Berkshire. Or if, uniting the two, he should desire a delicate limbed, well rounded, contented little animal, that shall browse with equanimity upon the purslane and the spare beet tops from his garden, I know none safer to commend than the Suffolks. Nor is it essential that he be thorough bred, since the tokens of *pur sang* are a red baldness, and a possible twisting away of the beast's own tail, which do not contribute to good looks.

All this is but preparatory to my reply to Lackland, who writes to me: "We have voted to have a pig and a cow; what kinds shall I get, and how shall I keep them, and what shall I do with them?"

And I wrote back to him: "Buy what the dealers will sell you for a Suffolk; if he lack somewhat in purity of blood (as he probably will), don't be punctilious in the matter. Let his sleeping and eating quarters be high and dry; and if you can manage beyond this a little forage ground for him

to disport himself in, and wallow (if he will) on wet days,—so much the better. The forage, if you keep him supplied with raw material in the shape of muck, or old turfs from your hedge-rows, will add largely to your compost heap, and in this way he will make up any possible sacrifice in his flesh. Miss Martineau, I know, in her 'Two Acre Farming,' advises severe cleanliness; and if the only aim were a roaster for your table and accumulation of fat, there might be virtue in the recommendation. But a pig's work among your turfs is worth half of his pork. He will thrive very likely upon the waste from your table and your garden. But, against any possible shortness of food supply, it were well to provide a bag of what the grain people will sell you as 'ship stuff'; and this, stirred into the kitchen wash, will make an unctuous holiday gruel for your little beast, for which he will be clamorously grateful.

"Again, the sty should be convenient to the garden (a hemlock spruce or two will shut off the sight of it, and a sweet honey suckle subdue the odors of it); then you may throw over chance bits of purslane, or the suckers from your sweet corn, or a gone-by salad, and find thanks in the noisy smacking of his chops. I would not give a fig for a country house where no such homely addenda are allowed, and where a starched air of propriety must always reign, to the complete exclusion of every stray weed, and to the exclusion of the rollicking Suffolk grunter in its corner, who squeals his entreaty, and declares thanks with the click-clack of his active jaws.

"He will take on larger and clumsier proportions month by month, and will be none the worse for the occasional carding which your zealous Irishman can award him in spare hours; and when, in the month of October or November, the waste growth of the garden is abating, and the frost has nipped the bean tops, and laid your tomatoes in a black sprawl upon the ground, your Suffolk (with, say, one or two additional bags of mixed feed) should be ripe for the knife.

"My advice, at this conjuncture, would be—sell him to the butcher. Those who like pig flesh better would give you rules for cut and curing. But, while I have considerable respect for the pork family when fairly afoot and showing grateful appreciation of the delights of life and of a full trough, I have very little consideration for the same animals when baked or stewed. Charles Lamb's pleasant eulogium on roast pig is one of the most terrible instigators of indigestion that I know; and I want no better theory for that charming writer's occasional periods of bitter despondency, than to suppose him to have dined 'at seven, sharp,' upon the dish he has so pleasantly and fearfully extolled.

"I do not mean to say that exception is not to be made in favor of a good rasher of bacon at breakfast, with a fresh egg (from the cock—as a city friend once suggested in a flow of cheery, rural exuberance); nor do I think anything can be righteously said against a snug bit of clear pork in a dish of boiled, corned brisket of beef; nay, I would still further extend the exception to a crisp fry of delicate slices as an accompaniment of grilled trout, where the latter fall below a half-pound in weight; nor do I think great harm of a thin blanket of the same condiment to enwrap a roasted quail, or slivers of it to en-lard delicately a fricandeau of veal. But, as for pork chops, or pork roast, or pork boiled, to be eaten as the chief piece nutritive of a dinner—it is an abomination! Our friends the Jews have not only scriptural reason in the thing, but reasons physiological.

"And now, my dear fellow, having dispatched your pig (who should be bought for five or six dollars at seven weeks old, and should be sold at twenty—from the growth of your garden and a splicing bag of ship stuff), you will have, if you have used proper vigilance, some three to four loads of choice compost to contribute to the vegetable growth of the next season. There is a notion that manure from such a source provokes the growth of club-foot in cabbages and cauliflower; but after repeated

trials with a view to fix this averment, I am unable to do so. Club-foot is not lacking with awkward frequency; but appears quite as often, so far as my experience goes, with other fertilizers as with that from the pig sty. A good liming and fresh turned soil are, so far as I can determine, the best preventives. Another precaution, which in my view should never be neglected, is to remove and destroy at once all plants which show symptoms of this ailment.

"The cow is a more tractable subject. Of course, you wish one that never kicks, that any one can milk, that will not resent indignities, and will yield you all the milk and the butter you need, and possibly the cheese.

"I remember that a city gentleman of great horticultural (and other) ability called upon me not many years ago, and after descanting upon the absurdity of planting two acres for a crop, which could be easily grown from half an acre, he asked me how many quarts of milk my cows averaged per diem? 'Fourteen to fifteen quarts,' said I 'in the flush season.'

"'But that is very small,' said he; 'there is no more reason why you should not have cows giving twenty to twenty-four quarts a day, than why you should not have strawberries giving two quarts to the plant.'

"I was not prepared to gainsay the proposition. The truth is, I feel a certain awe of distinguished horticulturists that blinds me even to their wildest assertions. What has an humble cultivator to do, or to say in the presence of a man who has bagged his premiums at a New York Horticultural Society, and is taster *ex-officio* at the Farmer's Club?

"I did not argue the matter with him; I submitted; I acknowledged my mediocrity humbly.

"Now my dear fellow, there are cows which yield their twenty to twenty-five quarts a day, but they are very exceptional. Many such, whose private history I have known, have been fed upon their own milk with the cream taken off. This involves,

as you will admit, I think, a quick reconversion of capital, which, with children in the family, is not always practicable.

"In a general way, I should say, it would be far safer to count upon an average of twelve to fifteen quarts per day, even with the best of care. And as regards your actual purchase of an animal, I dare say you will have Wall Street friends, who will talk grandly of the short horns, and suggest some Daisy, (1397, A. H. B.) at a cost of six or seven hundred dollars, and—viewing her pedigree—cheap at that. My advice to you is, don't buy any such, unless you intend to turn breeder, and enter the lists with the herd book people. I say this, not because the short-horns are not admirable animals; but admirable animals are not always the best domestic animals,—as some of your recently married friends may possibly be able to testify.

"But a man, who, like yourself, comes to the country for a leisurely enjoyment of all country bounties, does not wish an animal that must invariably be kept under the best possible condition; he wishes a docile, adaptable creature. Even a snug native beast might meet all the ends you would have in view, without figuring largely upon the cash book.

"Or still better, a sleek Ayrshire, that shall carry in her air and horn a little show of better breeding and full returns to the milk pail. But if you have a fancy for cream that is fairly golden, and for occasional conversion of excess of milk into a little *patt* of golden butter, nothing will suit your purpose better than a dainty Alderney, with her fawn-like eyes and yellow skin.

"I am aware that the short-horn people who can see nothing good in a cow, except her figure show mathematical straightness of line from tail to the setting of her horn—*snier* at the comparatively diminutive Aldernes. It is true, moreover, that there may be in them a hollow of the back, and an undue droop to the head, and possibly an angular projection of the hip-bones; but

their nose is of the fineness of a fawn's their eyes bright and quick as a doe's; their skin soft and silken, and with a golden hue, (if of good family) which gives best of promise for the cream-pot. Above all they have a tractability, which, in a domestic pet, is a most admirable quality. 'Spot,' (the black and white Alderney,) the children can fondle; she can be tethered to a stake upon the lawn, and will feed as quietly as if she were in a field of lucerne: she is grateful for a *bonne bouche* from the garden, and takes it from the hand as kindly as a dog. This docility is a thing of great consequence upon a little country place where every animal is made more or less of a pet. It is not every cow that will bear tethering upon a lawn; there are those indeed who can never be taught to submit to the confinement. The sleek Aldernes inherit a capacity for this thing, and I have seen upon the green orchards near to St. Hiliers, (Isle of Jersey,) scores of them, each cropping its little circlets of turf as closely and cleanly as if it had been shorn. In way of convenience for this service, it is well to have an old harrow tooth with a ring adjusted to its top, and revolving freely, into which ring an iron swivel should be attached. To such a fixture, easily moved, and made fast in the ground by a blow or two of a wooden mallet, a halter may be tied without fear of any untwisting of the rope, or of any winding up or other entrapment of the poor beast. I give these hints because it is often convenient to give a pet cow, from time to time, some detached feeding ground, where the shrubbery will not admit of free rambling; and there are none whose habit is better adapted to such indulgence upon the lawn than the Aldernes.

"If your cow be kept up constantly for stall-feeding, an earthen floor is desirable, and by all means a half hour's run in the barn yard of a morning. A darkened shed will be a great luxury to her in fly time, and will largely promote the quiet under which she works out the most bountiful re-

turns from the succulent food from the garden. A bit of ground in lucerne,—say four rods square, (it should be in drills and kept hoed the first season) will yield an enormous amount of food material, and if convenient to the stall, your children will delight in binding it up in little sheaves for "Moolly." If such a bit of ground be so situated as to admit of an occasional sprinkling with liquid manure, four good cuts in a season may be safely counted on; nor do I know any summer herbage which cows love better. Remember furthermore, that the lucerne, as well as corn fodder, are improved by a half day's wilting before being fed. In winter the carrots and mangold wurtzel will become available; both of which any cow may be taught to love, (if teaching be necessary) by giving them a good sprinkling of meal. In the change from summer to winter diet, and from winter to summer, it must be remembered that

all sudden changes from great succulence to dry food, or vice versa, is to be most cautiously avoided. Lack of care on this score is the secret of half the cow ailments.

"If I were to lay down a pleasant and productive winter dietary for your Alderney, it would be a peck of sliced roots in the morning, not forgetting a lock of sweet hay; at noon a quart or two of brewer's grains and fresh water *ad libitum*; at night a warm pail-ful of drink, into which a quart of coarsely ground buckwheat meal shall have been stirred, and another lock of sweet hay in way of night cap.

"With such food, and an occasional combing, at the hands of Patrick, (all the better if daily) I think you may count upon such golden returns of cream as will bring back a taste of the grassy spring-time."

Thus much for Lackland's Pig and Cow.

Edgewood, July 1st, 1865.

WATER PLANTS.

BY EDWARD S. RAND, JR.

AMONG the many classes of vegetation in the floral kingdom there is no family of plants more attractive than that which forms the subject of this article. Whether we regard aquatics in view of their brilliant and fragrant flowers, their curious and often beautiful foliage, or the numerous adaptations of peculiar structure to special ends, the whole class is particularly attractive and interesting. Yet, with the exception perhaps of the various classes of cryptogamous vegetation, there is no class of plants with which we are so little acquainted; and certainly there is none which will more richly repay attention and careful study. We do not now speak especially of the aquatic flora of the tropics, which is particularly rich and beautiful, and to which attention has been called of latter years by the discovery of the noble 'Victoria Regia' in the western hemisphere, and the importation of the gorgeous scarlet water

lilies (*Nymphaea*) from the eastern; but we desire also to call attention to our native aquatics, which, in various forms of attractive beauty, may be found in every river shallow, pond or brook, and which cultivated in aquaria become most interesting objects of study.

Many of these plants are exceedingly minute, so much so as to require microscopic examination for a full development of their structure; and it is in these plants that the animal and vegetable kingdoms approach so nearly that the line of demarcation is, if not wholly lost, involved in great obscurity.

But, interesting as these minute creatures may be to the botanist and naturalist, it is not to these we especially would call attention, but to the plants of larger growth which are interesting from delicacy of foliage, peculiarity of structure or beauty of flower. In order, however, to really enjoy these plants, we must grow them where

they can be objects of daily observation, and in such a manner that they may be in a measure under our control; for, however near we may be to a river or pond, circumstances which we cannot control may often seriously interfere with our studies.

If we have a pond or brook where our plants can grow without molestation, we may raise many of the larger and coarser species in great perfection; but, to obtain an intimate acquaintance with the more delicate plants, we must bring ourselves into nearer relations to them, which can only be done by growing the plants in tubs or in glass aquaria, which latter mode is far preferable as enabling us to make the most accurate observations, and note each new development of beauty. It is a curious fact that many rank growing plants under this treatment assume a peculiarly fine and delicate nature: thus the common pond weeds (*Potamogeton*), which naturally grow in muddy shallows, and are not plants of particular interest, if planted in a glass aquaria with pure sand and pebbles, lose their coarseness, assume a more delicate growth, and become very ornamental.

Again, we may, without the aid of a green-house, grow in the open air, during the summer, some very beautiful tropical aquatics. We have thus grown most successfully the blue Lily of the Nile (*Nymphaea caerulea*), the beautiful *Limnocharis Humboltii*, and the curious and fragrant *Aponogeton distachyon*.

The winter treatment of these plants is very simple, being merely the removal of the tubs to a light cellar soon after the heavy autumnal frosts. The water should be almost entirely drained off, and the plant allowed to rest; but it should never be dry; and if growth continues, it must be encouraged, and fresh water and a warm light situation given. There is always danger to the plant from rotting, especially with *Nymphaeas*, often with *Limnocharis*, but seldom with *Aponogeton*, which is the hardiest of all, often growing and blooming all winter, even in the dark.

The aquaria in which we grow our plants are of two kinds, wooden and glass.

The former are simply old oil barrels cut in two, each barrel making two tubs. These are perfectly water tight, almost imperishable, and if painted green very ornamental; those bound with iron are the best. Care should be taken, when they are put outdoors, to set them on bricks or pieces of joist, to prevent the contact of the bottom of the tub with the ground, which would speedily produce rot.

These tubs are suitable for the growth of such plants as require a muddy soil, and whose chief beauty is in the floating foliage and bloom, such as *Nymphaeas caerulea* and *odorata*, the white and blue Water Lily, *Limnocharis Humboltii*, Calla Lilies (*Richardia Aethiopica*), and Pickerel weed (*Pontederia cordata*).

The glass aquaria are made of slate and glass, and may be of any size or shape; they are adapted for the growth of delicate native aquatics, affording a full view of the beauties of foliage, which can only be seen when the plant is suspended in the water.

The winter treatment of hardy aquatics is simply to remove the tubs to a shed or cellar, where the water will not freeze very deep, so that the roots may be preserved in the mud; the greater part of the water may be drained off to advantage.

The glass aquaria should in winter be emptied and stored, unless it is convenient to winter them in the green house or at a sunny window.

The most important point in growing all aquatics is to provide for the renewal of the water: this is essential to the health of some plants; with others it may be disregarded. In glass aquaria it is particularly important, as the surface of the glass soon becomes coated with green slime, which can only be prevented by a constant change of the water. If a head of water can be procured, and a constant flow kept through the aquaria, it is all that can be desired. Our practice is to renew about one-fourth of the water each day, drawing off from the bottom, and filling at the top, or simply overflowing the tub by turning water from the coarse rose of a garden water pot.

It is also well to place a couple of gold fish in each tank, and to raise in each a colony of snails, which are of great service in eating up the slime. Care must, however, be taken to proportion the animal and vegetable life in each aquaria, as an undue preponderance of either will speedily cause the water to become offensive; in regulating this, experience is the best guide.

The usual time for putting out the aquaria in the latitude of central New England is about the 10th of May; the time for housing them about the 1st of November; thus giving nearly six months of open culture. As a general rule, put out when the nights begin to be warm, and house just after the first severe frosts. We have had ice half an inch thick in tubs of *Limnocharis* and *Apogyneton* without injuring the plants.

The soil for the growth of water plants in tubs should be rich leaf mould and peat mud; it cannot be too rich, but all must be well decomposed.

In glass aquaria, fine, clear sand and bright pebbles are most ornamental, and most plants thrive well in them. It only remains to describe a few of the most attractive aquatics, premising that all our native water plants possess beauties sufficient to render them worthy of cultivation, and the beginner may find in the nearest pond enough to occupy his attention for many summers.

NYMPHEA.—This family includes some of the most desirable plants for open culture; the flowers of all the species are deliciously fragrant; those of the hardy species are usually white, of the tropical blue, red, pink and white. The plants require to be set in rich mud at the bottom of the water, and they require a large tub as the foliage is large and spreading.

The hardy varieties are *N. alba*, native of England; *N. nitida*, from Siberia; *N. odorata*, our pond lily; *N. pygmaea* and *reniformis* are half hardy species, with white flowers from China and Carolina.

The only tropical species we have grown successfully is the beautiful lily of the

Nile (*N. cerulea*). The flower is sky blue, with yellow centre, and of the most exquisite fragrance. This species is half hardy, and has even endured a New England winter in the mud of a deep pond; but the plant was somewhat injured. The other species require the heat of a stove, and to be grown in a tank where the water can be warmed.

NELUMBINUM.—The only hardy species is *N. luteum*, the yellow water lily of the Western and Southern States. The flower is ornamental, pale yellow, resembling a double tulip, and the plant would probably be hardy in New England. Culture the same as *Nymphaea*.

Nelumbium speciosum, the species producing the sacred bean of India, is a most ornamental plant; flowers white or rose, single or double, and very fragrant. It requires hot-house culture.

EURYALE ferox.—The only species is a singular aquatic, every part of which is covered with stiff prickles. The leaves are about a foot in diameter, the flowers somewhat smaller than those of the *Nymphaea*, of a bluish purple or violet.

It is a native of the East Indies and China, and is of easy cultivation in a stove where it will seed freely with artificial impregnation.

NUPHAR.—This is a genus of about half a dozen species, all of which, except one (*N. Japonica*) are known to be hardy.—The flowers of all are yellow. Our most common species are *N. advena*, very common in rivers, ponds and ditches, and called yellow water lilies, and *N. Kalmiana*, a smaller and rarer species.

The European species are *N. lutea*, (found also on this continent, according to some authorities) *N. pumila*, much resembling the last, but smaller, *N. sericea*, native of the Danube, and *N. Japonica*, native of Japan.

N. sagittifolia is a southern species which might be hardy in the middle States. All the species are of the easiest culture in rich loamy soil.

SARRACENIA.—A small genus comprising

the plants known as Pitcher plants, or side saddle flowers. They are well worth cultivating, both from their beauty and singularity.

They are not strictly aquatics, but being bog plants, require a moist place to ensure success; they do well in an aquarium on rocks just above the water, but where the roots can be in wet sphagnum.

Our most common species is *S. purpurea*. *S. rubra* is a smaller Southern species, with beautifully curved leaves.

S. Alata often produces leaves or pitchers two feet long; the flowers are yellow.

S. variolaris much resembles the last. The first species is hardy, all the rest requiring green house protection in winter.

MENTANTHES or Buckbean.—A beautiful genus of bog, nearly aquatic plants.

Our most common representative is *M. trifoliata*, our American variety, being of stouter habit than the European. The leaves much resemble clover, whence the name 'water-clover.' The flowers are rose color and very beautiful.

The plant is of easy culture in water and bog earth.

The other species are *M. cristata* or *crista galli*.

APOXAGETON.—A genus of elegant aquatics of easy culture in the open air in summer, but requiring protection in winter.

The flowers are white, with black dots, exquisitely fragrant, and of peculiar shape. The commonest and hardiest species is *A. distachyon*, which is a very free bloomer. *A. angustifolium* and *juncifolium* are species from Southern Africa.

Limnocharis Humboldtii, a most beautiful tropical aquatic, which flowers freely all summer in the open air. The blossoms are canary yellow, with black eye; last only a day, but are produced in great profusion. The plant may be grown in a tub in rich loam, in which the runners root freely; in an aquaria in pure sand, or planted in a pond where it will flower beautifully till cut off by the frost.

These are but a few of the aquatics we may grow and bloom with little care.—There are many others equally curious and beautiful, of which we may name the water target, (*Hydroptilis purpurea* or *Brasenia pellata*) the many species of bladder-wort, (*Utricularia*) the water crowfoots or buttercups, (*Ranunculus aquatilis* and *Purshii*), the water arums, (*Peltandra Virginica*) and *Calla palustris*. The large natural families of Water Plantain (*Alismaceae*) and Pond weed (*Naiadaceae*), also contain many curious and interesting plants, which, in cultivation, present many before unnoticed beauties.

Glen Ridge, July, 1865.

NOTES ON THE MAY NUMBER.

LACKLAND'S HOUSE PLANS.

A MOST capital article, and comes pat to me, because, in my line of life, I have had to plan and contrive to remodel and make or save a new house out of numerous old ones. It is my general plan, I must say, however, to discard all old houses, further than simply to repair them and leave them in their original state; because the expense is usually as much to make the additions and changes as would build the new house

entire. I, this spring, however, remodeled a little cottage, which I will give as another instance where money can be saved, and comfort obtained. The house to work upon was, as you will see by the plan, 32x24, with a rear wood-shed of 10x24. My scale is 16 feet to one inch.

After studying the matter over, the building being only one story, 9 ft. between ceiling and floor, the porch side a flat roof

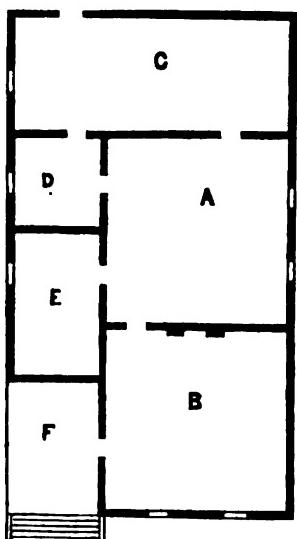


FIG. 1.

- A—Dining Room, 16x16.
B—Living Room, 16x20.
C—Woodshed, 10x24.
D—Pantry, 8x8.
E—Bed Room, 8x12.
F—Porch, 8x12.

Here is the plan as it now stands:

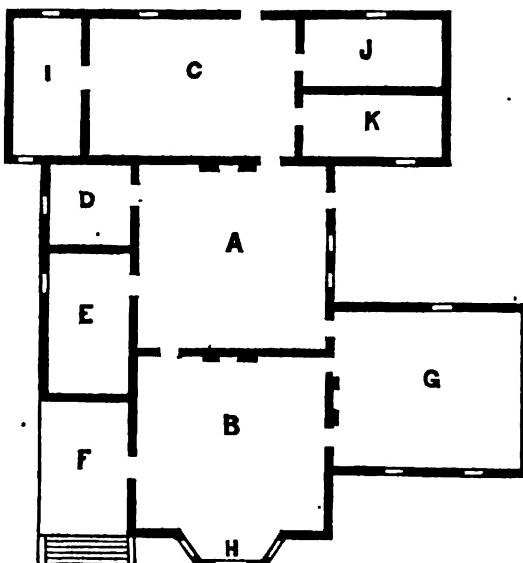


FIG. 2.

- A—Dining Room, 16x16.
B—Living Room, 16x20.
C—Kitchen, 12x16.
D—Bed Room, 8x8.
E—Library, 8x12.
F—Porch, 8x12.
G—Bed Room, 14x16.
H—Bay Window.
I—Pantry, 7x12.
J—Bed, 6x12.
K—Bed, 6x12.

of 8 feet, and the owner only having four to five hundred dollars to expend. I planned and changed it as follows, and so as to come within his limits of expenditure.

The bay window new, the wing new, and the rear part made by cutting the woodshed in two and turning it, and filling up the centre. Floor for all the rear new, and in the reconstruction, nearly all the walls were destroyed, or so much broken beforehand, as to have to be made anew.

In old times of Lumber at 12 to 20 dollars per thousand, and labor at 12 to 18 shillings a day, this would have cost about Three Hundred Dollars; but both labor and lumber are now high.

The chimneys, three in number, are stove chimneys, all new and the whole underpinned anew, but with the old material. A wing is planned to be added on the side of the new library, the wing to be two stories and 20x24 feet; and as the house now faces the north, having a view of the Lake, the two-story wing will give fine

position for a green-house or conservatory. The owner now does not choose to incur debt, neither does his needs require more room, so the house is as above depicted.

ORCHIDS.

To amateurs and young gardeners, these articles are most valuable.

BERRY CULTURE.—Although these tales of hundreds of dollars being gathered from a few acres appear to the cotton and corn grower as munchausens, yet their truth is none the less valid. If I recollect aright, it is but a few years since a farm of 42 acres in Illinois, took the premium as yielding more of net profit than any one in the State, where farms vary from the above number to thousands of acres. The great evil of this country is, a striving for extent of territory. It is the error of individuals, and I think of the nation.

In cultivating the blackberry, I noticed lately a plan as follows, viz: The bushes or plants are set in rows thick, the rows ten feet apart. After they have done fruiting, the old or bearing canes are at once cut out with a long handled hook knife, then leaves or chopped straw are liberally scattered among them, and early in the spring lightly forked in and a light dressing of the mulch again added.

CULTURE OF THE ROSE.—The very best article with the most plain and correct instructions that I ever read. It is worth more to the amateur than all the books that are printed. I can only add, that all roses give better and more blooms to be replanted yearly, and, the hardy ones, of course, in October, late if possible.

If early June blooms are not wanted, then spring planting will answer equally well, but all the first formed buds of spring planted perpetual roses should be cut away before opening.

NEW ERA IN GRAPE CULTURE.—Mr. Husman has come out into the light with some of his knowledge, and he here tells what many men at the west have long known, viz: that the works of all authors to this date, however theoretically correct they may

be, and valuable to the amateur, are no guide for vineyardists, where one man is expected to take care of four to six or more acres.

Why! gentlemen, the mere expense of posts, slats and upright wires recommended by one author would damp all flavor of grape culture, were it not that there are abundant vineyards where one fourth or less of the expense in trellising is found requisite.

Give us more of "grape growing made easy," Mr. Husman, but be not sure that Missouri is going to grow *all* the Grape. Ohio, Pennsylvania, and even now Southern New Jersey, to say nothing of Illinois and Kentucky, produce many acres of grapes; and yet, the culture is comparatively in its infancy, and the knowledge thereof only just shadowing out.

COLOR AND CONSTITUTION OF PLANTS.—A well prepared article and evidently from careful study, but yet does not convince me that it is sound. I would know how long these experiments have been tested; the soil and condition of it, whether dry and underdrained, &c., &c.

Some years since I took the same view as here detailed and made some observations, but did not complete them. I however cannot think that the color of the petal of a flower, or the pellicle of the fruit has aught to do with the hardihood of the plant. A dark wood and dark green foliage may have to do in the ratio supposed by the Doctor. I shall be glad to read more of his observations, for, if they are not sound, he has done good in thus drawing attention to the matter and elucidating a certain amount of information.

GRAPE CUTTINGS FROM HISTORY is valuable in matter to the young learner, while **FRUIT CULTURE IN SOUTH JERSEY** is another of the records of a long neglected but really valuable country for growing of small fruits. Will S. B. N. tell us if the Norton's Virginia has yet been fruited at Egg Harbor City. As a Wine making grape, we have now no hardy vine of equal capacity. The pure Norton's Virginia wine equals, if it does not surpass any dark wine of any country.

CULTURE OF THE PINEAPPLE.—A good article for the stove-house man, but I think we will never be able to grow Pineapples in this section of country at prices to meet the means of the multitude.

FERNS.—No. 1.—A step in the right direction. Our hardy native Ferns are among the most beautiful of plants, and the most neglected. They are splendid acquisitions in the construction of rock work and rustic fountains.

RAISING SEEDLINGS.—Go ahead Mr. Merrick, if you don't succeed in growing

the best grape or strawberry in the world; our word for it, you will have gained much information, and more than likely diffused a spirit of enquiry around your neighborhood, that will bring forth forty fold of horticultural progress.

You ask, what varieties of Strawberries to hybridize? I would advise Hovey's Seedling and the Albany. The one a large firm berry, and the other so very productive.

REUBEN.

WINE MAKING IN NEW MEXICO.

BY J. G. KNAPP, MESILLA, NEW MEXICO.

THE making of wine in the native vineyards of New Mexico is of the most primitive character imaginable. It rather reminds one of the "treading the wine-press" in Judea, than of descriptions of wine making in France and Germany, as copied by the vintners of America. The theologians, here, could correct many of their ideas about the occult meaning of many passages of the Scriptures, by studying the habits of these descendants from the old Spaniards, in this as well as in many other respects.

The grapes having matured, which is in September and early October, and gathered in the peculiar saucer shaped basket, woven from the long leaves of the *Amoles* (Spanish Bayonet), are carried to the house at which they are to be crushed. Here they are rinsed with water, to remove any dirt which sticks to them from the irrigations, and dried. No water is allowed to enter into the juice. They are then deposited in a trough cut in a large cotton wood log, or in a half barrel tub, for crushing, a drain having been first provided to let off the juice as it may be set free. Some remove the berries from their stems; but generally they are not removed. There being a foot and a half or two feet of grapes in the trough, a man, with his clothes rolled up, and bare footed, gets in and commences the

work of crushing by stamping upon them. When the berries are all crushed, the pomace remaining in the trough is placed in a gunny sack, and pressed under a lever press. This is usually constructed by taking advantage of a tree, in which a hole or notch is cut, and a long pole is used for a press, with weights attached, somewhat as I have seen cheese pressed.

After the juice has thus been expressed, comes the fermenting process. For this purpose a close dark *adobe* room is prepared, with an earth floor and *adobe* roof, around which two strong beams are arranged about three feet apart, and six feet from the ground, for the purpose of holding the wine sacks, receivers or fermenting vessels. These are constructed by sewing with raw-hide a cow skin to four sticks, fastened together about two feet square, two of which extend out far enough to rest on the beams in the wine house. The hides being green, soaked soft, hang down, hair outside, like a pouch, and will contain from 25 to 50 gallons each. On the front side of the sack, near the bottom, a small round hole is cut, and a wooden plug inserted. This is for the purpose of drawing off the liquor. These being in place in the wine room, the new wine is transferred from the vat or press to them, until they are entirely filled. As

soon as the first fermentation has taken place, a cover is prepared for the sacks, by placing a cover of sticks woven together with raw hide, and just the size of the mouth of the sack; and over this is placed a layer of mud mixed with straw, so as to render them nearly air tight. In this condition the wine is kept until the winter months, when it is racked off and put in tight casks or bottled.

In a few instances a quantity of the fresh juice is boiled down until it is quite thick, and then this is put into the wine to add to its strength. This causes a deep red color, and a muddy character to the wine which cannot be clarified out; but it adds greatly to its strength and keeping quality. Without this addition, or clear sugar, which would be far preferable, the native wine, unless closely corked in glass, will not resist the heats of the first summer. Sometimes the wine is racked from one sack to another. This improves its purity, but injures its keeping properties by bringing on a second fermentation.

Wine fermented in new sweet hides is far preferable to that kept in casks. The hides part with a portion of their gelatine to the fresh wine, and thus retard the fermentation, at the same time that it clarifies the wine. Hides never can have their inner surface rotted or decayed by being in contact with wine or water, and thereby impart a woody flavor to the wine. A portion of tannic acid in the wine leaves it and unites with the green hide, so that the same will in a few years become almost tanned; and this tends to its preservation. After the wine is taken from the sacks, they are turned upward and left in their

places for future use; and require no soaking out or smoking with sulphur when again required.

Water is added to the pomace; and the scum of the wine is also used in making vinegar. The native wines bring to the vintner from two to three dollars a gallon; and under the present internal revenue, it has gone up to four and six dollars. The light wines are all consumed during the first eight months after they are made. Those that are strengthened keep, if undisturbed, for years. All are too sweet to suit the taste of those who only drink the manufactured wines in the States, or those made from the sour grapes of Germany and the States. The grapes of New Mexico are very sweet, almost without aroma, except the white, or *muscated*. As they are never worked up until the berries commence drying on the vines, the tartaric acid is fully developed, and scarcely any other acid is found in them. In this the wine differs essentially from the Northern wines. This acid being far less soluble in the wine than are the acids of the Northern grapes, the grapes of New Mexico will not make the sour wines, but more resemble the sweet wines of Sicily than of France and Germany.

By the simple and primitive process above described, an old strong set vineyard will give a yield of \$2,000 to the acre, with an outlay of less than \$300 in tending the vines and manufacturing the wine, at old prices; and double that sum under present rates. Yet, strange as it may seem, but few persons are engaged in vine growing, and not one half enough is produced for home consumption.

FERNs.—No. 2.

In our former paper on ferns, we spoke of them as being classed under two divisions: the *Annulate*, those in which the thecae are provided with marginal ring, which operates in the dispersion of the seed, and the *Exannulate*, which have no such

appendage. The first class is divided into six families; the second contains but three. According to Newman, who is our chief authority, the first in order of these various families is the *Adiantacea*, of which the most elegant specimen, probably, is the

Adiantum Capillus Veneris, or the True Maiden Hair.

The distinguishing feature of the family of the Adiantaceæ is that the thecae, or seed cases, are covered by a portion of the frond. Sometimes this appears like the inclusum, or membrane which ordinarily covers the thecae, at other times it is evidently a portion of the frond itself. In the first genus of the family of which we are speaking—the *Adiantum*—the masses of thecae are borne in circular clusters on a reflexed portion of the edge of the frond, and in the Maiden Hair they appear like oblong bodies rising from the edge of the leaf. This beautiful fern is usually found on moist caves or rocks near the sea coast, where it takes root firmly in the stony crevices. The young leaves appear in May, and are matured in July. The foot-stalk, which is of a rich crimson brown, divides at the base of the leaflet, and forms a ridge from which branch off strong but very delicate veins of a whitish green. These veins again subdivide, and fork off into pairs at about the middle of the leaflet, and each vein so formed forks a second time before it reaches the margin of the pinnae where the masses of the seed vessels lie, and ornament the leaf with a sort of braided border of exquisite beauty.

It is an old notion of naturalists that ferns produce no seed that is visible. And this idea of the seed being invisible was carried out into the idea that if any such thing could be procured, it would render him who wore it also invisible. Shakespeare makes one of his characters in *Henry IV* say, "we have the récipe of fern-seed, we walk invisible." And Ben Jonson says, "I had no medicine, sir, to go invisible, no fern-seed in my pocket." We have seen, however, that the fern does bear seed in immense quantities, and that ample provision has been made in the structure of the plant, for dispersing, as well as preserving the seed from injury during its progress to maturity.

We come now to the genus *Lomaria*, of

which the *Lomaria Spicant* is one of the most conspicuous. The characteristic which distinguishes the *Lomaria* is that the thecae are continuous, placed in line on the pinnae which they nearly cover, while they in turn are covered with a continuous inclusum.

The singular and very beautiful appearance which this fern presents, from the mixture of dissimilar leaves on the same plant, and from the grace and vigor with which its noble tufts of vivid green rise from the earth and cluster in groups among the other ferns and flowers which adorn the mossy banks, attracts much attention and admiration. It is hardly excelled in beauty by any other fern; for though the *Osmunda regalis* may tower grandly above it, and the Shield ferns spread their broad fronds in unrivalled dignity, yet the grace of this plant, and the peculiar appearance which its narrow, comb-like fronds present, always attracts the eye of the admirer of nature, and compel his attention, whatever other beautiful objects may be near it.

The third genus of this family—the *Adiantaceæ*—is the *Pteris*, known in the British Islands as the Brachen, and in this country as the Brake.

This is one of the commonest ferns, and is found every where in the wild districts, but it is one of those truly wild plants that disappears before cultivation. Its average height is from two to three feet, though in moist, shady woods it frequently grows to double that size. The mark of this group of ferns is that the thecae form a continuous marginal line covered with a continuous inclusum. The young fronds which are tender, and often cut off by early frosts, come up like those of most other ferns in a circular form, but bent or doubled back, the leafy part being pressed against the stem. The generic name *Pteris* is given on account of its plume-like growth, and was that by which the Greeks called the whole tribe of ferns.

This fern has been thus described, from a specimen in the hands of the writer:—

Around every part of each lobe runs a delicate border of a velvety appearance, a light brown hue. It follows the margin of the leaf most exactly, and is in due proportion to the size of the green leaflet on which it repose, and consequently rather broader on the upper than on the lower ranches. The lowest pair of pinnate, and the pair next above it are deeply notched; and as the border continues to follow each part of the edge, it here necessarily assumes the form of a Vandyke. This beautiful border consists entirely of myriads of these

or seed vessels, which, if examined under a microscope, are seen to be little globular cases of a crisp and shining material, in each of which is contained a countless multitude of minute grains like a brown powder.—These are the organs of reproduction."

This is not only the most abundant, but the most useful, perhaps, of all the ferns. In Europe it is used for thatching, for litter for cattle, for packing fruit, and in some places for fuel. It has, also, medicinal qualities, and contains so much alkali that its ashes are used for making soap and glass.

NOTES.

BY T. T. S.

FRUIT TREE BORERS.

As it is both better and easier to prevent than to cure, I would recommend the following article as a cheap, lasting and good preventive against the working of the borer: Take of Fish oil and Sulphur, and make a moderately thick paint; bring the oil from the base of the tree and spread on the paint as low down as possible and as high up as needed, say a foot or so. The more offensive the oil is in smell the better. It should be applied in May or June.

NOXIOUS INSECTS.

It can not be denied that man has no enemy so great, so to be feared,—War, Silence, and Famine excepted,—as is seated in Insect life. Though as individuals, they seem unworthy of notice, yet in their aggregate they hold tremendous and fatal possibilities.

Every day, preyed upon by thousands of them and by themselves, subject to a multitude of destroying agencies, yet what a power they hold over the destiny of man. In every fruit he plucks; with almost every vegetable he cultivates; with the crops of his fields, and the flocks of his pasture. He has to contend in some shape with destructive Insect life.

Of those providential agencies that hold

them in check, but once cease or partially so, and the angel of destruction would literally be let loose upon us:

Each year brings with it some new development of destructive Insect life. The older we grow, as a country, the greater become their ravages. Can too much attention and study be devoted to a subject that is so closely related to our interest.

Every means that tends to the destruction of our enemies should be carefully cherished.

I would here mention how last season I "flanked" a few specimens of Insects that sought to rob me of the rightful fruit of my labor. Discovering my currant bushes covered with worms, I gave them a sprinkling of water, and then a light dusting of Cayenne Pepper. The next morning found my bushes free. Finding my squash and cucumber vines infested by both the yellow bug and the large black one, I gave them a slight sprinkling of water, in which I soaked some cayenne pepper pods, and my vines were effectually cleared. They probably thought the seasoning too high, and sought a milder diet. I applied to roses and other things infested with lice, with the best results. Where the remedy can be applied I deem it one of the best.

HORNET RASPBERRY.

There seems to be some difference of opinion about the hardiness of this variety. I have cultivated it without protection for four years, and since the first year has stood the winter well, better than Brincklee's Orange and some other varieties. In point of hardiness, I consider it equal to the varieties commonly in cultivation, and in size and flavor unsurpassed.

PLUM TREES.

In a yard, formerly the site of an old

ashery, stand several large and old Plum trees. The soil about them is composed largely of ashes, and on these plum trees there is no sign of black knot, and the fruit is always perfect, while all about them through the whole place, hardly a tree is to be found but what is affected. Why should these be exempt, but for the reason that the same cause that makes the fruit drop causes the knot, viz.: "The little Turk."

GRAPE CUTTINGS FROM HISTORY.—No. 4.

BY JOHN S. REID.

We now come to examine the grape and wine culture of that most wonderful and learned people called the Greeks; and to report to a few of the modern Athenians the result acquired by them in the production of this glorious beverage. Time, which has destroyed empires and dynasties, levelled the marble columns of Athens and Corinth, prostrated the Ephesian Temple, and almost obliterated the birth and erection of the Pyramids, has dealt lightly with the "nectar of the gods"; and history has embalmed the perfume and strength of their choicest wines, so that one almost thinks, in conning over the musty pages of Grecian history, he scents the aroma of the Maronean and Lesbian wine.

But let us refresh our geography a little before we enter into the famous vineyards, and learn where this most wonderful country is situated, so that our readers may thoroughly understand the place as well as the latitude in which the "Islands of the Blest" are found.

Nestling on the bosom of the glorious Mediterranean, in lat. 36° to 40° are found the beautiful isles of Lesbos, Scioe, Samos, Delos, Lemnos, Rhoda, Messina, Zante, and the Grecian main-land, where burning Sappho loved and sung.

The ancient wines most noted for their

superior qualities are the Maronean, the Chian, the Corinthian, the Cyprian, the Lesbian, the Ismarian, the Tzian, the Rhodian and the Leucadian. The Pramnian, the production of Attica, a red but sour wine, is reported as being somewhat like our Port, but more harsh and unpalatable; and such was some of the wines of Corinth and Sapa.

The islands of Crete, Cyprus, Rhodes, with the territory along the coast of Thrace, and Ismarus, produced excellent grapes and wine, chiefly of a white or amber color; except the Maronean, which was a black sweet wine, of which Homer writes with much delight, and drank it with as much pleasure. Some ancient writers prefer the wines of Chios and Thasos before all others, except the Clazomenian, the product of Ionia.

In strength, they far surpassed any of our modern wines, it requiring from three to twenty measures of water to reduce them and make them palatable for the feast. It is supposed that they were condemned to this state or degree of syrup or consistency by the process of "smoking" to which they were subjected. The manner in which this was done is this: a furnace or kiln was erected, named the amphorse, where earthen vessels well glazed were placed, full

wine, containing from four to ten gallons over the kiln, and kept there until the watery particles were chiefly evaporated; after which it would keep for ages.

The Greeks, it is said, were acquainted with more than fifty varieties of grapes; and they gave much attention to the culture of the vine, being acquainted with the best methods of cultivating this plant, as well as in the manufacture of the wine; and these have been handed down to us, differing very little from "our most improved method" of the present day. They were extremely fond of the odorous quality, and would often put in their must dough kneaded with honey, mixing with it aromatics, flowers and fruits; giving to each a separate aroma, so that on opening an old cask the odor of roses, violets, and other fragrant flowers, would fill the wine cellar, gratifying the sense of smell as well as the taste.

At the feast, it was not uncommon for the guests to mix the rich wines of Byblos, Erythrae and Lesbos, with the light wines of Heracles and Mende. But it was not alone in the islands that wine of a superior quality was made, for the finest situations for vineyards abound on the slopes of the main-land, the Morea having formerly furnished the Malmsey and Malvasia grape, from which the sweet wines of Malaga, Madeira and other famous places obtain their name; and the islands of Candia and Cyprus, under the rule of Venice, when that republic was mistress of the Adriatic, supplied Europe with the choicest qualities and brands.

The relative strength of the ancient when compared with the modern wines is as follows:

Port,	25°.	Maronean,	40°.
Madeira,	22°.	Lebian,	30°.
Sherry,	19°.	Rhodian,	26°.
Malaga,	18°.	Zante,	17°.

So that, when the *feast* was not of the Bacchanalian order, the guests usually mixed their pure wine with water, as two to five.

The climate and soil of Greece are highly favorable to the cultivation of the grape; and nothing more is wanting to produce wines of superior quality except that skillful mode of preparing the soil and vine. But at present the vineyards are kept in the worst condition; and the manufacture of the wine is a disgrace to that or any other country, the vintners mixing with it salt, water, pitch, resin and lime in such undue proportions as to destroy both its fine aroma and taste. Wherever the Turkish arms have entered, desolation has followed in their train, with wretchedness and apathy. The modern wines of Greece are of the sweet and aromatic order, whilst the red muscadine of Tenedos and white muscadine of Smyrna vie with the best Hungarian; yet the red wine of Ithaca once was preferred to either, whilst the vineyards of Rethymo and Kissanos rivalled the choicest Rhodian Cimmandaria.

Perhaps the Greeks of the present day may improve, under their own government, the horticulture of their fathers, and again make that beautiful archipelago the garden of the world; unless ages of bondage and misgovernment have broken their spirit, and destroyed their love for the improvement of their country.

Here was the birth place of philosophy of literature, of the arts and sciences; here Homer and Hesiod, the fathers of poetry and history, lived and flourished; here Socrates, and Plato, and Aristotle, and Xenophon, have ennobled humanity; here too was the throne of Jupiter, the father and king of the gods, and all of the lesser deities; indeed, almost every thing is here that could wake up the dormant mind to action, and arouse the soul to become again what it was in the days of its early nationality, when Greece was the *LIGHT* of the world.

The ancient Greeks have a beautiful tradition concerning Minerva, that when Neptune and Minerva at one time contended about the name of a very famous city, said to have been built by Cecrops, it was re-

solved that whichever of these deities conferred the more excellent and useful gift on man should give their name to the new city.

Neptune brought a horse, and presented it as his gift; when Minerva instantly produced an olive out of the earth, and presented it as her choicest gift to man, when the assembly of the gods adjudged it to be the more useful; and the naming of the city was awarded to Minerva, who called it Athens, from her own Greek name. Thus horticulture was honored by the gods at that early day.

It is said that under Cecrops, 1600 years before Christ, the culture of the vine was brought into Greece, although Noah, as we have before shown, planted a vineyard 2350 years before Christ, on the slope of the Armenian Mount Ararat; and that from this source the vine has come, to Asia Minor, Palestine, Egypt, Greece, and Italy, of which country our next "Cuttings" will be.

HOME CUTTINGS.

I regret that this month my Home Cuttings are so valueless, for the frost of the

17th of May last nipped almost every vine, and laid low in dust my hopes and prospects for a grape crop for the present season.

My young vines were all seriously injured, and those first fruiting lost all their bloom. The Delaware, that I deemed hardy, equal to the Clinton, was cooked like a bean; so were all of the new varieties, Anna, Hartford, Herbernont, Union Village, Iona, Isabella and Allen's Hybrid, but most of all my Page; the last was wholly destroyed. And now the excessive and continued rains have covered with mildew my old and larger Catawbas; so that I may say that, *this season*, my grape crop will be a complete failure.

On the day after the frost, I went to several small vineyards to examine their state, and found them *sept* every whit as bad as my own.

After such a splendid opening and showing in the spring, I regret the result of my examination, but must bear it with resignation, hoping for better luck next year, and a new variety *hardy* as the Clinton, and good in *quality* as the Delaware.

PLEASURE GROUNDS.—DESIGN, &c.

BY C. N. R.

THE increase of the inhabitants of our pleasure grounds within the last few years, places the taste and patronage which are bestowed on gardening in a very conspicuous point of view.

The style in which grounds are now usually laid out, may be characterised in one short sentence. "Convenience is endeavored to be rendered as attractive as possible, by combining it with the beautiful and appropriate." The convenience of the inmates of the mansion is studied by having the kitchen and fruit gardens near the house, fully extensive enough to supply all the wants, and kept in the appropriate beauty of order and neat-

ness, without any extravagant attempt by the mingling of useful trees, or planting its cabbages, etc. in waving lines. In the flower-garden which immediately joins the house, dry walks, shady ones for summer, and sheltered ones for the more intemperate seasons, are conveniently constructed.—There accompanying borders and parterres are in form, such as are most graceful, whilst their inhabitants distinguished for their fragrance are distributed in grateful abundance; and those noted for their elegant shapes and beautiful tints are grouped and blended as the taste of the painter and the harmony of colors dictate. The lawn from these glides insensibly into the more

distant ground occupied by the shrubberies and the park. Here the genius of the place dictates the arrangement of the levels and of the masses of trees and water. Common sense is followed in planting such trees only as are suited to the soil. A knowledge of the tints of their foliage guides the landscape gardener in associating them, and aids the laws of perspective in lengthening his distant sweep. If gentle undulations mark the surface, he leads water among the subdued diversities, and blends his trees in softened groups, so as to form light glades to harmonize with the other parts. If high and broken grounds have to be adorned, the design minglest waterfalls with darker masses of darker foliated trees, and acquires the beauty peculiar to the abrupt and grand, as in the former he aimed at that which is secured by softer features.

DESIGN.—“Consult the genius of the place before you determine upon your design” is sound advice; for in gardening, as in all fine arts, nothing is pleasing that is inappropriate. “A plain, simple field,” says a writer of good authority, unadorned, but with the common rural appendages, is an agreeable opening; but if it is extremely small, neither a hay-stack, nor a cottage, nor a path, nor much less all of them together, will give it an air of reality. A harbor on an artificial lake is but a transcript; it raises no idea of refuge or security, for the lake does not suggest an idea of danger. It is detached from the large body of water, and yet in itself but a poor inconsiderable basin vainly affecting to mimic the majesty of the sea.

When imitative characters in gardening are egregiously defective in any material circumstances, the truth of the others exposes and aggregates the failure. But the art of gardening aspires to more than imitation; it can create original characters, and give expressions to the several scenes superior to any they can receive from illusions. Certain properties and certain dispositions of the objects of nature, are adapted to excite particular ideas and sen-

sations; they require no discernment, examination or discussion, but are obvious at a glance, and instantaneously distinguished by our feelings. Beauty alone is not so engaging as this species of character; the impressions it makes are more transient and less interesting; for it aims only at delighting the eye, but the other affects our sensibility. An assemblage of the most elegant forms in the happiest situation is to a degree indiscriminate, if they have not been selected and arranged with a design to produce certain expressions; an air of magnificence or simplicity, of cheerfulness, tranquility, or some other general character ought to pervade the whole; and objects pleasing in themselves, if they contradict that character, should therefore be excluded. Those which are only indifferent must sometimes make room for such as are more significant—may occasionally be recommended by it. Barrenness itself may be an acceptable circumstance in a spot dedicated to solitude and melancholy.

“He is no philosopher,” says a writer, “who neglects a certain present good for fear that in some future period it may be absurd; but in the encouragement of gardening, whilst an immediate good is obtained, there is no fear of its perversion in after days. Its diffusion among the poorer classes is an earnest or means of more important benefits, even than the present increase of their comfort. The laborer who possesses and delights in the garden appended to his cottage is generally among the most decent of his class, he is seldom a frequenter of the ale-house; and there are few who are so senseless as not readily to engage in its cultivation when convinced of the comforts and gain derived from it.

Gardening is a pursuit adapted alike to the gay and recluse, the man of pleasure, and the lover of science. To both it offers employment such as may suit their taste; all that can please by fragrance, by flavor, or by beauty; all that science may illustrate; employment for the chemist, the botanist, the physiologist, and the meteorologist.

There is no taste so perverse as that from it the gardener can win no attention, or to which it can afford no pleasure. He who benefitted or promoted the happiness of mankind in the days of paganism, was invoked after death, and worshipped as a deity. In these days we should be as grateful as they were without being as extravagant in its demonstration; and if so, we

should indeed highly estimate those who have been the improvers of our horticulture; for, as an ancient writer says, "it is the source of health, strength, plenty, riches, and honest pleasure; it is amid its scenes and pursuits that life flows pure, the heart more calmly beats."

Pokeepsie, June 1st, 1865.

THE NEW ERA IN GRAPE CULTURE—No. II.

BY GEORGE HUSMANN, HERMAN, MISSOURI.

As I am not exclusively writing for rich folks, (who can follow grape culture any how) but more especially for the poorer class; for those who have nothing but their willing hands and active brain to command grape culture with, I will now refer to a plan which has been followed with good results to both parties, the wealthy and the poor, and which we call here, "tenanting, or growing grapes and vines on shares." I will here also give my own experience.

Some eight years ago, I bought a piece of wild land at \$2 50 per acre, which, I thought and still think, is well adapted to grape culture. In 1861 I made the first beginning on it, and made a bargain with a poor but industrious emigrant of the following kind: I was to build him a small house, furnish the plants and trees, and pay him \$150 per year the first two years; he to do the labor, fencing, clearing of ground, planting, etc.; he to have one half of all the produce of all the vines and trees, and I to have the other half. This contract to last an indefinite length of time, until one of the parties should get tired of it, when he had to give the other six months' warning. No compensation to be allowed after the first two years, except one half of the produce. I built him a small but comfortable house, and my tenant went to work with a will.

The first spring he fenced, cleared and planted about three acres in grapes, and

four in orchard, mostly pears and peaches. Made during the summer, about \$250 worth of layers, of which he received one half, and raised corn and vegetables enough for his family. This, with the \$150 I paid him annually, enabled him to live with his family. The second summer he made about \$1000 worth of plants, of which he received one half again. The third summer the produce was about \$1600, making \$800 as his share; and the fourth year I have paid to him \$2600 as his share of the proceeds in plants and fruits; and if the rebels had not unfortunately emptied all of the wine, he would have had at least \$500 more. This, the fifth year, he will have at least \$6000 as his share of the proceeds, and it may be a thousand more. During that time he has sent money to his brother in Germany, to pay the passage for him and his family; has bought a piece of land joining mine, and leased it to his brother on about the same conditions under which he holds a lease from me, he preferring to remain a tenant on my land. The land, house, plants, and all have cost me, so far, about \$1800; net proceeds up to last spring, \$3,100. If we consider that these were the first four years, that in 1863-64 nearly all the buds on the vines were killed by the extreme hard winter, and that the rebels destroyed about \$500 worth of wine, it will be seen that we have both found it a profitable investment. It may be fair here to state,

that he and his family are of the most industrious, hard working, and intelligent people I have ever met, and that the greater part of this was made by raising plants of the best varieties. Not a cutting was wasted; and as I take all the plants he raises at a fair wholesale price, he has no further trouble in selling them. But, Messrs. Editors, here is an example of a man, entirely without means, making a comfortable living by grape growing the first few years, and he is now in a fair way of becoming wealthy in a few years, while the proprietor of the ground has every reason to be satisfied with the capital invested. Can not others go and do likewise? There are thousands of acres of the best grape lands to be had yet in this State, at the rate of from \$5 to \$10 an acre.

Has there ever been a better opening for the poor industrious laborer than he can have in Missouri now? I have lately bought some 500 acres of splendid grape lands, at an average of \$5.50 per acre, and am ready and willing to welcome a dozen of industrious families to go to work on them—others will do the same. Rest as-

sured they can soon earn enough to buy land of their own if they choose. Now, that we have perfect peace and quiet again, we look forward to a flood of emigration; and it will come. It will not be long before land will rise to treble its value now; flourishing farms and vineyards will be where every thing is wilderness yet, and oh! most glorious thought of all, they will be worked by *free* and happy people.

Fruits of all kinds look most promising. We have had a most abundant crop of cherries and strawberries, plenty of pears, peaches, and apples, and as to grapes, there never was such a prospect. The trellis is fairly groaning under the load of fruit, and our coopers have to work day and night almost, to prepare the multitude of casks which will be wanted to receive the noble grape juice.

To those of our Eastern brethren, who wish to try their fortunes West, we offer a kind invitation to come and judge for themselves. They may rest assured of a hearty welcome.

HERMANN, Mo., June 22d, 1865.

MORE NEGLECTED FLOWERS.

BY J. M. MERRICK, JR.—WALPOLE, MASS.

I WISH to call the attention of the HORTICULTURIST readers to three or four plants natives of the northern States, and now (May 19) in blossom, which have never been promoted to the dignity of garden culture, although they fully deserve that honor.

I mention first the *Houstonia* (*Oldenlandia Caerulea*), a well known delicate little plant, with bluish white flowers with yellow centre, in blossom from May to August, chiefly to observe that it would form a very pretty contrast if grown with the dwarf *Polygala*, which is about the same height, and blossoms at the same time.

POLYGALA PAUCIFOLIA. This pretty plant grows in every wood and pasture, sending

up from a running root stock slender few-leaved stems, bearing flowers of the most exquisite purple, tipped with white. A single blossom is not very striking; but a bed, or a well rounded bouquet, such as I have before me while writing, is very effective.

A beautiful plant, confined, so far as my experience goes, to a very few localities, is the *CORYDALIS AUREA*. The only place where I have found it is but a few square feet in extent, although I am told it occurs in Roxbury, in this State. Belonging to the same family as the *Dielytra* (the *Tumariaceæ*); it resembles that plant in foliage, but differs from it in its blossoms, which are

red, orange, and pink, and are produced in great profusion from the middle of May till late in June. My plants are in full flower, and have been so for three weeks. It is a biennial, growing readily from seed, and is very ornamental.

As a companion for the Lily of the Valley, I venture to suggest the *DRACENA BOREALIS*, a very handsome plant, fond of damp soils, and flourishing best when its roots are actually wet all the time. From its three or four broad base leaves, it sends up a scape from six to eighteen inches high, crowned with an umbel of five or six delicate yellowish green lily-like flowers, succeeded by an oval berry of a bright and noticeable blue. It usually blossoms in June, and its berries are conspicuous till September. This year it is in full bloom in the middle of May, and I have plants under cultivation, removed while in full bud, with perfect success.

I have never met with any cultivator, myself excepted, who has taken pains to transplant the Indian Turnip, *ARISEMA TRIPHYLLUM*, from the woods to his garden; but a plant so curious and so easily cultivated deserves a place in every collection where there is a foot or two of damp and shaded soil to spare. Under favorable conditions the Arum grows to a monstrous size. I saw specimens last year that were three feet and more in height. It is a perennial, grows from a corn, and is easily transplanted.

If the reader's garden has a swampy, boggy spot, shaded and unfit for most garden plants, let him transplant from the woods the *SARRACENIA PURPUREA*, and try his luck with the most curious production of nature our swamps afford. It is hard to say which are more striking, the pitcher shaped leaves of this plant, almost always half full of water, or its odd, upside down blossoms, unlike anything else in the world. I have transplanted it in bud, and kept it growing in a pot for some time, by cutting off half the leaves; but it needs its native habitat for perfect development, and is rather impatient of removal.

The *CALYPSO BOREALIS*, whose flowering season has now gone by, would be a great treasure if it were not so very rare; but I have never seen it, nor have I seen any one who has been successful enough to find it in this part of the State.

A rich, shady cedar swamp affords the botanist, who has his eyes open, a fine chance to collect rare and curious flowers.

I could take the reader to one where, without stirring, from his standing place, he could gather all the plants mentioned above, except the *Corydalis*, and besides these the Bellwort, *Smilacina*, *Orientalis*, and Golden Thread; while a walk of a few steps would bring him to the *Corydalis*, and a few weeks later to the *Calopogon*, and various kinds of orchis. Of these, and later flowers, I may speak in a future article.

THE ACTION OF METALLIC SALTS UPON THE GROWTH OF PLANTS.

BY J. M. MERRICK, JR.—WALPOLE, MASS.

Several years ago, when I was assistant to Professor Horsford, the professor of Chemistry in Harvard University, he was consulted by one of the parties to an important lawsuit, where chemical principles were largely involved; and where the main question turned upon the action of copper fumes and scorion on vegetation. We made many hundreds of analyses of soil, grass, bark, and moss from the neighborhood of

the Copper works, and finding copper everywhere, we undertook experiments in watering plants with solutions of copper, arsenic, and other metals injurious to their growth. Having kept no minutes of these experiments for my private use, this summer, I made the investigation in poisoning plants, which are given in the following pages.

A solution of sulphate of iron, of eight grammes for the half litre, was taken as a

standard, and solutions of acetate of lead, chloride of tin, sulphate of zinc, sulphate of manganese, sulphate of copper, and bichloride of mercury were made, of such strength that equal measures, should contain equivalent (*not equal*) quantities of the respective metallic bases.

Seven Triomph de Gand strawberry plants, as near alike as possible, and seven small cauliflower plants, were transplanted into pots of uniform size, and, beginning on the first day of June, each plant was treated with fifteen centimetres of the above named solutions per day, and all the plants were watered with clear water twice a week. The following are the results:

1st. Strawberry plants subjected to the action of acetate of lead, no change till

June 10—Slight blackness on stems.

" 17—Stems a little decayed.

" 23—Two large, and one small leaf remaining.

July 2d—Two half healthy leaves left.

Cauliflower with acetate of lead, seemed wholly unaffected.

July 2d—Strong and growing.

2d. Strawberry treated with chloride of tin, no change noticeable till

June 9—Stems blackened.

" 17—Stems decaying.

" 21—Stems more decayed.

" 30—Entirely dead.

Cauliflower plant treated with chloride of tin in perfect health, July 2nd.

3rd. Strawberry plant treated with sulphate of zinc, no change noticeable till

June 10—Stems blackened.

" 17—Outer leaves gone.

" 23—One leaf remaining.

" 25—Entirely dead.

Cauliflower treated with sulphate of zinc: no change noticed till

June 23—Leaves shrivelled.

July 2d—Entirely dead, having decayed rapidly.

4th. Strawberry plant treated with sulphate of iron, no change observed until

June 10—Stem show slight decay.

" 17—Outer leaves going.

June 22—Leaves black and decaying.

" 30—Entirely dead.

Cauliflower plant treated with sulphate of iron.

July 2d—Leaves slightly shrivelled, otherwise healthy.

5th. Strawberry plant treated with sulphate of manganese, no change perceptible till

June 11—Slight blackness on stems.

" 16—Apparently healthy.

" 23—Several leaves dead.

" 30—Two healthy leaves left.

Cauliflower plant with sulphate of manganese, unchanged till

June 23—Leaves shrivelled.

July 2d—Leaves badly shrivelled.

6th. Strawberry plant with sulphate of copper, unchanged till

June 10—Stems decaying.

" 23—Three leaves remaining.

" 29—Entirely dead.

Cauliflower plant with sulphate of copper unchanged till

June 23—Considerable decay.

" 30—Rapid decay, almost dead.

7th. Strawberry plant with chloride of mercury, no change perceptible until

June 7—Stems blackened.

" 11—Stems rapidly decaying.

" 17—Outer leaves dead.

" 19—Whole plant entirely dead.

Cauliflower plant with chloride of mercury, no change observed until

June 17—Somewhat affected.

" 25—Badly decayed.

" 28—Entirely dead.

These experiments are interesting from one point of view as shown how much better cauliflower plants can resist poisonous agencies, than strawberries, and what is true of the cauliflower will probably hold true of all plants of its class.

The action of the corrosive sublimate was most rapid, as may have been foreseen, but how a cauliflower can grow when daily watered with a strong solution of sugar of lead is mysterious.

The action of the iron and copper salts

were about the same, although it might have been supposed that copper would act more energetically than iron.

The first signs of decay were blackening of the stems, then the stems wilted, and last of all the leaves shrivelled. The base of the stem in all cases was affected first. The roots were black and dead. I trust

some reader of the *HORTICULTURIST* will continue these experiments on other plants, and give us his results. I should suggest the use of weaker solutions, so that the experiments might occupy a longer time, and slighter changes in the health of the plants be noticed.

NOTES ON THE JULY NUMBER.

PRUNING PEAR-TREES.—As remarked by the Editor, this is a matter more preached upon than correctly practised; and the article copied is perhaps the best instruction yet in print. Nevertheless, is there not an error in M. Du Breuil, so far as the time of first pruning? He says: "Do not prune the first season after planting." Now, we find that all our young trees, when obtained from the nurseryman, come with mutilated roots; and, if we leave all the buds or top without cutting back, we have a puny weakly growth, and often death in August. But, if we cut back our tree from eight to twelve inches, from the insection of the bud, when the roots start, two to four buds push vigorously. These, if managed and pinched back in early July, will give by the last of September a good formed bush, on which to work next year. I have recently had an examination of some proof sheets on this subject, now in press by the Ohio State Board of Agriculture, written by F. R. Elliott, of Cleveland. The matter is there treated in a plain, practical way, carefully and elaborately illustrated for the use of the uninitiated.

LACKLAND'S GARDENER.—Our Edgewood friend has given us an account of Lackland's gardener which is a literal record of every day experience. In summing up, however, he does not despair of his friend, but expects yet to see him grow verbenas, &c., although his cabbages have died. Judging from our experience, Lackland obtained more for his money than most amateur men

do who hire what are termed "gardeners." But, so long as our Petroleum and Shoddy Aristocracy will pay for *gardeners* who have had charge of the Duke Buccleugh's place, and astonished the old country with their skill, so long as men who hire will pay more for impudence than brains, just so long the common laboring man, willing to do what is told him to do, will continue to be the best and cheapest gardener. To extend this a little, it has become common, for men having made a little money, to hire a gardener, build green and forcing houses, &c., and, instead of employing skilful men who have made the matter a study, give the subject of construction of these houses to the gardener and joiner, and the arrangement of the grounds, grouping of trees, &c., exclusively to the so called gardener. Criticism is an unpleasant item of performance relative to any production; but when that production is one designed to be permanent and to meet the eye of cultivated taste, as in the designing of residences and the arrangement of roads, trees, &c., surrounding, he who plays the critic must expect sharp points to reach him from every side. But, at the risk of these points, let us say that we do not think five per cent. of the so called "gentlemen's places" will bear correct criticism, and all because they have preferred to use their own and their gardener's judgment rather than employ one who, having made the whole matter a study, gives drawings before his work, and a reason to each item and position connected with the work.

HINTS TO ORNAMENTAL PLANTERS.—I wish every man, from Maine to California, would read and heed this article. As the writer says, "a smooth carpet of grass, a few choice trees and shrubs, &c., will command themselves to every eye."

COOL TREATMENT OF ORCHIDS.—One of the best articles on this subject. The suggestion of the writer, however, that our clear skies and suns are not the same as in England is worth careful thought ere the amateur expends much of time or money on growing orchids in a house with grapes; but I should like much to find success the rule rather than the exception.

CULTURE OF THE ROSE.—A plain practical article that alone is worth to the uninitiated Rose grower more than the cost of the Journal a year. It is such records of practice and detail of culture that make the *Horticulturist* peculiarly valuable. Let us hope they will be continued.

RAISING HYBRID AND SEEDLING GRAPES.—Mr. Campbell's experience on this point, and as here recorded, is of great value as a guide to farther progress. He says that with all his seedlings, he does not yet feel that he has acquired a grape that will take the place of kinds now known, and yet to our knowledge he has grown many hundreds. Truly this growing of a superior fruit from seed is rather an up-hill work. It is well we have enthusiasts in fruit culture, men who care more for the enjoyment obtained in the prosecution of these labors than for the money value predicated thereon. Within a week of our present writing we have examined over two hundred seedlings, mostly crosses, in which Delaware acted as one of the parents; but, like Mr. Campbell, we may continue to work and $\frac{1}{2}$, the result sought for has not yet appeared.

THE WREN.—A well-written plea for

one of our most deserving and, by us, cherished songsters. It is not, however, the Wren alone that should be protected and a habitation provided; but the Robin, Lark, &c., deserve the attention of all residents of the country, not alone for their musical songs, but for their practical labors in preventing the increase of insects. A friend of mine claims that the common Barn Swallow, by eating of the fly, prevents the Slug, commonly called Pear or Cherry Slug, from doing any injury to his trees, while half a mile from him, and where the Swallow does not brood, the insect is abundant.

EVERGREENS.—The writer is correct in advising us to stick to our old and well tried friends the Norway Spruces, Hemlocks, &c. He says when a pine grows long and spindling, cut off the leader, &c., but he does not tell us when to do it. In my experience, I have found that all evergreens will bear cutting back; but it is only within a few years that I have practised cutting when just about half the growth has been made, in the spring. If cut at that time, I find they form strong side buds, and the next season beautiful thick heads, while if cut before growth, often it takes two or more years ere the cutting back is clearly healed and the form well established.

LETTER TO COUSIN SELINA. This letter recalls to my mind the proposal, some few years since, to build large green houses in the Central Park. Pray tell us, Messrs. Commissioners, why have they not been built? Surely, New York, as a city, was never more prosperous; surely there cannot have been any want of money for the purpose; nor, with all the taxes now levied, do we believe there is a resident of the city who would be unwilling to add a little more if he knew it would be judiciously expended in forming an elegant winter public garden.

REUBEN.

ERRATA.—The first form containing our leader slipped through our hands before the proof was duly corrected, & have consequently been annoyed at finding, in the first column, on page 246, a serious error, which we here correct. Instead of "12 inches from their starting point," read *one inch*. We would also add, that the article has intentionally been translated as literally as possible, in order to follow the author word for word in all his instructions. This will account for its peculiarity of style.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

• WODENETHE, Fishkill on Hudson,
15th June, 1865.

MESSRS. WOODWARD.

DEAR SIRS : I enclose you herewith a letter from Mr. Hunnewell, of Wellesley, near Boston, the finest place in Massachusetts, describing three or four of the most prominent places in England, which I think would prove very interesting to a good many of your readers, especially those who are inclined to the cultivation of the newest evergreens.

Truly yours, HENRY W. SARGENT.

* * * * Liverpool, 21st May, '65.

I have thought of you a great deal lately, having experienced a "sensation" week in a horticultural way, somewhat similar to the political one you described. We have been to see some of the show places I had hoped to visit with you, such as Elvaston Castle, Alton Towers, Chatsworth, Trentham, &c., which have afforded me much gratification, as you may suppose. I was much surprised and disappointed though, to find some of them quite run out, such as the two first, which are shockingly neglected, though they do say Elvaston will be restored soon, as the present Earl will become of age, and, having some taste for country life, will make his entrée to the estate through the gilded gate, burn a yew log, and have a state dinner in the grand banqueting hall, which we saw, as likewise Miss Foote's (of buy a broom notoriety) chamber, looking out on to that famous Italian garden, as it is represented in the "Gardens of England," and which is really a great wonder, the topiary work exceeding even my most sanguine expectations.

It is all executed with the Yew, except the covered walk with the little loopholes, as they appear in the sketch, which to my surprise I found was of arbor vitae, thickened at the bottom with box. It is very curious and quite successful. This Italian garden is the only part of the place kept up; but that is no small job, as there is a great quantity of clipping done; and the trees are so tall that they are obliged to have a much scaffolding to reach them as would be necessary to gild the Boston State House cupola. There are half a dozen yew arbors with enormous peacocks on top of them, pedestals with crowns capitally executed, trees trimmed up ten to fifteen feet high in a circular form, and the tops then allowed to throw out their branches; and then in the back ground two great columns resembling very much the column in the Place Vendome; they were so high. Most of the Araucarias here in this garden, and all over the place, were killed four years ago, making bad work in their calculations. But the evergreen feature is decidedly overdone, and makes the place very dismal and gloomy, especially as every avenue and path are lined with the Irish Yews; and there is but one spot in one hundred and ten acres where a deciduous tree is to be seen! Even the great avenue, two to three hundred feet wide, with a view seven miles distant, has an inside row of those upright growing Yews. The greatest curiosities are some enormous Golden Yews, as much as sixty feet or more in circumference, and lots of splendid Douglas Firs, the finest trees in the place. There were many large *pinus cembra*, but only middling sized specimens of *Pinsapos*, *Nobilis*, *Deodars*, &c. I must not

forget though a Weeping Aah grafted forty feet high, which will be a curiosity indeed one of these days.

I saw the machine referred to by Mr. Barron in his book, who remains on the place, though he has given it no attention for a dozen years or more, being allowed only a small sum of money for expenditures; so he has been busy in preparing a nursery close by, and is going into that business.

Alton Towers, the Earl of Shrewsbury's is also very much neglected, no attention being paid to the grounds around the castle, which he cannot afford to inhabit. But the gardens are mostly in a valley, one side of which is principally covered with masses of Rhododendrons, showing off to great advantage on the side hill; but a great proportion, here as elsewhere, are Ponticums, the cultivation of which Waterer tells he has given up; they are so inferior to the catawbienses varieties.

Chatsworth I was disappointed in. The house is situated rather low, not comparing with Eton Hall or many other Italian palaces we have seen. The park, though grand, has not an evergreen tree in it. The rock work, composed of square blocks, is too artificial, and altogether it did not come up to expectations.

Trentham offers greater attractions than almost any other place, being on a grand scale, and in fine keeping in every respect. But I noticed very few novelties in the way of trees or shrubs. We could not get into the house; but it has a noble appearance, and comes up to one's ideas of a Ducal residence; it is on low ground, though as usual, with limited views, but has a fine sheet of water in front.

One of the most interesting places I have seen has been Mr. Bateman's at Congleton, who figures in the "Gardener's Chronicle" frequently, you may have noticed. He has no park; and at first sight I thought I had been caught on a wild goose chase, the house being within fifty feet of the road, on low ground, with a great furnace chimney by the side of it as tall as a Manchester factory.

But the garden, though small, has the greatest collection of novelties of every kind imaginable in prime order, and all in the finest keeping. You have rock work, stump work, Italian gardens, Chinese gardens and Egyptian, all admirably carried out with appropriate plants. But the greatest attraction is an evergreen avenue of some fifteen years growth treated in the most novel and admirable manner, which would make you open your eyes wide, for there is nothing to be compared to it in the great crack places. It has raised irregular borders planted with great judgment and taste with all the new varieties of trees and choice specimens of shrubs, the Rhododendrons, so full of blossoms that they are obliged to thin them out; so says the gardener, who breaks off the old faded blossoms before they go to seed. Here, as at many other places, it seems to be the habit to charge an admission fee for the benefit of some charitable society, a pretty good idea, as you get rid in that way of many loafers and undesirable visitors. You had better try it.

Before leaving London we went one day to Hampton Court, and saw the grand avenue of Chestnut trees just as they were in full bloom; five rows of magnificent old trees on each side; one hundred and sixteen in a row; the two inner ones of Chestnuts, and the other eight Lindens. A great sight indeed! We also went to the Royal Horticultural Society Gardens, and saw sixty thousand tulips in bloom. Just outside the main enclosure I spied a great lot of Rhododendrons, which I found on inquiry belonged to Waterer, who was planting them out for the great exhibition. So I went up and introduced myself. He is a fat chunky looking Englishman, received me very cordially, and we had a long chat together, he having a great deal to say about a *Mr. Sargent*, whom he expects to bloom this year in perfection! He had three thousand plants there he said brought up from his nursery, twenty-five miles distant, in teams, with large balls of earth, of course. The names of every one he knew, though they had no

labels and were not in blossom. The place for the exhibition is a great pit sunk down a dozen or fifteen feet, with the plants arranged on the sides, terrace like; so they show to great advantage; the whole to be covered, when in bloom, with a great tent. They will be in their prime in a few days, when I hope to see them, as also the nursery.

IONE VALLEY, CAL., June 8th, 1865.

This climate admits of the widest range for fruits, flowers and vegetable products of most all kinds.

We have the Fan Palm and Pomegranate growing successfully in the open air. We are raising Oranges and Olives. We know not yet what our soil and climate will produce, nor the extremes of vegetable products which may yet here be brought to harmonize in our great variety of climate and soil.

We can begin on the San Joaquin River, with its tropical climate, (barring the rains) and ascend to the eternal snows of the Sierras. For grapes, we have all varieties of soil and climate, so as when properly understood, we can have wines superior in flavor, of all kinds, and cheaper than adulterated. With the remaining fruits, we combine Maine and Florida, and some parts, I have no doubt, of the Isthmus.

Yours, respectfully,
CARLOS W. SHANE.

BROOKLYN, N. Y., July 6, 1865.

EDITORS OF THE HORTICULTURIST:

Gentlemen,—We of the city are often regaled with the fine stories of what this man or that man has done upon one, two or three acres; for instance, we hear of a man receiving for the fruit plucked from his $2\frac{1}{2}$ acre field of Blackberries, a sum equal to \$1100 a year. Again we hear of \$1500 an acre from Grapes. At another time we hear of \$600 to the acre for Strawberries, and \$1000 to the acre for Cabbage, Lettuce and Celery.

Just now there is a great rage for ten acre fruit farms, and I am curious to know how a farm of that size can be so disposed as to yield the largest income, by devoting $\frac{1}{2}$ to fruits and the rest to vegetables.

I would respectfully submit the following estimate to you, and ask whether a father and son, with the help of a hired man, can so cultivate ten acres carefully and with liberal manuring, as to yield the following sums? If any of your readers can do better, I would like to have them record their opinions in your corresponding columns.

TEN ACRES.	Yearly revenue.
$2\frac{1}{2}$ acres to Strawberries.....	\$700 00
$2\frac{1}{2}$ " " Blackberries	700 00
$\frac{1}{2}$ " " Grapes, Hartford prolif.	250 00
$\frac{1}{2}$ " " Concord.....	250 00
$\frac{1}{2}$ " " Delaware.....	250 00
$\frac{1}{2}$ " " Horse Radish.....	200 00
$\frac{1}{2}$ " " Asparagus	100 00
$\frac{1}{2}$ " " Lettuce, Cabbage, Celery.....	300 00
$\frac{1}{2}$ " " Rhubarb and late Cabbage.....	300 00
$\frac{1}{2}$ " " Onions	200 00
$\frac{1}{2}$ " " Sweet Corn and early Potatoes	75 00
$\frac{1}{2}$ " " garden vegetables, such as Melons, Lima Beans, Tomatoes, Cauliflowers, Beets, Carrots, Turnips, Carrots , &c.....	100 00

Total Revenue.....\$3,425 00

I should think that every expense, such as manure, hired labor, expense of sending to market, and keeping of horse from the spring to the fall seasons might be included within the \$925, leaving the snug little profit of \$2,500. Are my estimates too high? if so, please set me right.

Yours, Horticulturally,
H. T. WILLIAMS.

MESSRS. EDITORS,

The annual June Exhibition of the Newburgh Bay Horticultural Society has just

taken place ; and I learn from the Treasurer that the receipts this year exceed that of last season forty-four per cent., encouraging to its gentlemanly and energetic managers, who eminently deserve success for their hopefulness and perseverance. *Failure* is not in their vocabulary.

As this Society in all its particulars is a Newburgh institution, as it does very much to refine and exalt true taste, it is to be regretted that many wealthy citizens, who spare neither money or exertion to appear tasteful and refined, should neglect or refuse to extend to it the patronage of a single dollar for membership, or the paltry quarter for a season's visit to its attractive exhibitions of choice fruits and flowers ; this too in contrast with the visits made to People's Hall from far distant parts of the State, and from neighboring States, to enjoy the fine display, not to be found elsewhere.

Although Newburgh is honored in the exhibition, yet it is mainly indebted to the adjacent towns for its most liberal supplies, many of which were gifts to the Society. All honor to Fishkill, Cornwall and Paltzkill.

The premiums offered were very liberal ; but we understand that only about half the amount was called for, thus showing that the exhibitors were as anxious to get up a fine show as to draw the prizes. Indeed, one of the prizes, the best basket of flowers, was not competed for, although several were on exhibition, among which were three splendid ones from Cornwall, simply labelled with the names of the lady contributors. The prizes were offered for the largest and best collection of Roses, 1st and 2d, Hybrid perpetual Roses, Bourbon Roses, Tea Roses, Hardy June Roses, Moss Roses ; for the best three Roses of any variety ; Herbaceous Paeonies, Lilies, Sweet Williams, Carnations, Pinks, Iris, Pansies, cut flowers, baskets of flowers, large bouquet for vase or parlor, hand bouquets, wreath of flowers, pot plants ; for the best general collection of green-house plants ; for the best general collection of stove plants ; for the best five distinct named varieties of

Fuchsias ; for the best six varieties of Achimenes ; for the best six varieties of Gloxinias ; for the best six varieties of Pelargoniums.

Fruits.—For the best and largest collection of Strawberries ; for the best three varieties ; for the best Triomphe-de-Gand ; for the best Russell's Prolific ; for the best quart of any variety ; for the best three varieties of Cherries ; for the best quart of any variety of Cherries ; for the best plate of Raspberries ; for the best specimen of Muskmelon.

Vegetables.—For the best Asparagus, Cauliflower, Cucumbers (under glass), Lettuce, Peas, Rhubarb, Potatoes, Beans and Tomatoes.

The show was splendid and tastefully arranged. Our limits will not admit of particular mention of individual exhibitors, or the names of those who took the premiums ; but we cannot forbear to give great praise to the parties who got up and sustained the fair, so creditable to all. We wish every county in the State could make a similar exhibition ; and when next the Newburgh Bay Horticultural Society exhibit, "may we be there to see." We learn that their grand, full exhibition of Fruits, Apples, Pears, Grapes (under glass, and Hardy Native), Peaches, Nectarines, Plums, Quincees, Muskmelons, Watermelons, Vegetables and Flowers of every variety, will come off on 27th, 28th and 29th September next, and will probably be the very finest display of the kind ever seen in this country.

ADMIRER.

Newburgh, June 20th, 1865.

Rose Bugs.—For several years past every effort of mine has failed to save my Grapes from the ravages of the rose bugs.

Last year I resolved, regardless of time and trouble, to keep my vines clear of this pest by going over and destroying them two or three times a day, which I did do most thoroughly. The result was, I saved only fifteen or twenty imperfect bunches on vines that should have produced many

hundreds. Last year my wife having saved some of her rose-buds by paper bags, I concluded I would this year try them on my grapes. Before the bugs made their appearance I prepared some 600 small bags from old newspapers. On the first bugs showing themselves I slipped one of these bags over the grape stem (then just forming, but not yet in blossom) and gathered it up close to the vine, securing it with a string.

This proved a perfect success. I have now on my vines nearly 600 as perfect bunches as one would wish to see. Of many hundred bunches left uncovered, I do not think a single grape escaped the bugs.

The bags were about two by five inches. I put on quite a number of larger bags to hold the branch and several bunches. All these failed, as none were saved where leaves were tied up in the bags, as the grapes blasted in process of blooming. Most of the large and few of the small bags were torn, in two very hard wind and rain storms. Fearing the grapes might injure by remaining too long in the bags, I took them off as soon as I thought they were safe from the bugs; but in the hurry of the operation quite a number were overlooked, and as these burst their way out, they not only showed no damage by their long imprisonment, but the grapes are larger than those first removed from the bags. The rose bug seldom attack the grape after it is set, but only the blossom; though they are often quite destructive to Apples, Peaches, and Cherries.

G.

Burlington, N. J., July 3, 1865.

LILIMUM AURATUM. — We were shown lately at the store of Messrs. Henderson & Fleming, 67 Nassau St., magnificent blooms of this superb new lily. — They were grown by Mr. John Dingwall of Albany, and far exceed in size (measuring nearly eight inches in diameter,) any of the illustrations of this flower that have come to our notice.

The great beauty of this lily—its perfect hardiness, delightful fragrance, and the ease of its culture, must recommend it to all lovers of flowers, and we hope to see it generally disseminated.

Mr. Dingwall also exhibits a new lily without name, received among other bulbs from Japan. It resembles in form the old Turk's cap. Color yellow, with brown spots finely perfumed. This we think a decided acquisition to the lily tribe.

SEYMOUR'S PATENT TREE PROTECTOR. — This is a contrivance manufactured by P. & F. Corbin, New Britain, Conn., to prevent insects from ascending the bark of trees, and consists of a circular iron trough protected from the weather, and placed around the trunk. This trough being filled with oil arrests the progress of all insects that do not fly. They are very neatly made of cast iron, japanned, and of all sizes that may be required, and can be easily applied by any one. We should think they would fully answer the purpose for which they are intended.

THE WILSON EARLY BLACKBERRY. — We received, July 12th, one quart of this Blackberry from John S. Collins of Moorestown, New Jersey, which were showy and in fine eating condition. It is said to be a valuable and distinct variety; as good a grower and more productive than the New Rochelle, ripening 5 to 10 days earlier.

AMERICAN HORTICULTURAL REGISTER. — We call the attention of our readers to the advertisement of W. C. Flagg, Secretary of the Illinois State Horticultural Society, Alton, Illinois. All engaged in business as nurserymen, fruit growers, dealers, agents, &c., are invited to send early, prompt and correct information, for the purpose of compiling the American Horticultural Register. This is a work that promises to be of great value to the trade and others; and we hope all interested will respond fully.

FINE STRONG PLANTS, AND CHOICE VARIETIES OF NATIVE GRAPE VINES

For the coming season, of

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These vines have been grown from single eyes, and are now part under glass and part in open air. Special pains have been taken to insure correctness in each variety. It is thought these plants will merit the attention of purchasers. Prices upon application.

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Pansies.—Our own growth from finest named English sorts, the seed all of the crop of 1865.

King of the Black 25
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DELAWARE GRAPE VINES,

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These Vines are grown from single eyes of well-matured wood. After many experience in growing Vines we have for three years past discarded the Pot Culture, because it induces cramped condition of the roots, from which they with difficulty recover.

Our Vines are, therefore, grown in broad borders, where, having perfect freedom, they substantial woody roots, full of fibre eyes.

The reports returned to us of the rapid and luxuriant growth of those we have furnished in past years, enables us to recommend these with entire confidence.

For three years our stock has been exhausted in the Autumn, and subsequent applications have been disappointed.

Those therefore who wish them should order early.

IONA VINES,

No. 1, \$2 each; \$18 per doz.; \$100 per 100. No. 2, \$1 50 each; \$12 per doz.; \$81 per 100.

CONCORD VINES,

From single eyes, one year old,

\$12 00 per 100; \$80 00 per 1000; \$700 per 10,000.

We also offer fine plants of

Adirondac, Creveling, Allen's Hybrid, Ives' Madeira, Diana, Israella, Hartford Prolific, Lydia, Rebecca, Rogers' Hybrid,

and the other popular sorts, all at Low Prices.

We commend our Vines to Dealers, as particularly adapted to their needs, and have arranged the rates that the difference in the prices of different quantities will afford a good profit. Address

July 6m.

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2,000 ALLEN'S HYBRID,

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AND NUMEROUS OTHER VALUABLE VARIETIES BOTH NEW AND OLD.

We thank our customers for the liberal patronage they have bestowed, and assure all interested in vine and grape culture, that no care or expense will be spared this present season to bring our vines to the highest standard.

Our prices will merit the attention of DEALERS and PLANTERS. RESPONSIBLE AGENTS are wanted in every town to form clubs, or to spend the season in caning. Large commissions will be given to such as can furnish reliable references. None other apply. Address, with stamp,

WM. PERRY & SON,

BRIDGEPORT, CONN.

June 4t

SEPTEMBER 1865

ESTABLISHED IN 1840.

THE
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Journal of Rural Art
and Rural Taste.

EDITOR W. WOODWARD, Publishers, 37 Park Row, New York.

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THE
HORTICULTURIST.

VOL. XX.....SEPTEMBER, 1865.....NO. COXXXI.

THE NATURAL AGENTS OF VEGETATION.

(FROM THE FRENCH OF DU BREUIL.)

We understand by the natural agents of vegetation, those which facilitate, and often even entirely determine the different phenomena which take place in the life of plants. These agents are particularly the *soil*, *water*, *the atmosphere*, *light*, and *temperature*.

(We translate what relates to the following three, viz:—)

WATER, AIR, LIGHT.

Water.—The nutritive agent, which, next to the soil itself, plays the most important part in the role of vegetation is, most assuredly water. We speak here only of its general action during vegetation.

Water is found in the soil, in the liquid state, and in the atmosphere, in the state of gaseous vapor.

If water was not in the ground in a liquid state, the latter would be wanting in the essential qualities of vegetation. It is only in a state of solution in water, or in a gaseous condition that the nutritive matters contained in the soil can enter into the organism of plants.

The office of liquid water is not limited to the solution of nutritious matter; it serves further under the name of sap to carry this nutriment into various parts of a tree, or to promote new growth.

This explains why certain lands, exposed to drought, although containing a fair proportion of good pasture, yield a vegetation less abundant and less vigorous than other lands not so rich in nutritive matter, but possessing a greater degree of moisture. It explains moreover that period of the cessation of vegetation observed towards the middle of the summer, at the time when soils exposed to drouth, are in part dried out by the vegetation and the evaporation going on since the spring time. At this period vegetation completely ceases, to recommence again with new vigor as soon as the first rains of autumn have moistened the ground. In view of this, you readily perceive the effects of a deficiency of water on vegetation. If the dryness of the soil is not very great, there only results less

vigor in the vegetation, and a larger number of flowers for the following year. If the drouth is more intense, and particularly if of protracted duration, vegetation is suspended; there is no further development; the leaves fade, turn yellow, and fall. And in fine if it becomes excessive, the tree dries up and dies.

The only means to be employed to prevent the too great drying up of the soil, are waterings, coverings, and dressings with the hoe or plough.

An excess of water in the soil is not less injurious than drouth. In a soil in which moisture abounds, vegetation is very rapid; the wood is of bad quality, because it is always too soft; fruit trees produce fewer flowers, and in consequence less fruit; and this is of poor flavor, and keeps badly. But if the water becomes stagnant and covers the roots, the consequences are yet more serious. The roots deprived of a free contact with the air, can no longer fulfill their functions; they rot and the tree dies. Running water is productive of less evil than stagnant water, because the former contains always a certain amount of air.

Certain soils endure this excess of dryness or moisture better than others.

Water in the state of vapor in the atmosphere is no less useful to vegetation than that which the soil contains in a liquid shape. These watery vapors are absorbed by the leaves, which in this way come to the aid of the roots in restoring to the plant the losses incurred by evaporation. What seems most remarkable is, that this absorption of the watery vapor by the leaves, takes place most freely when the roots, occupying a soil too dry, with difficulty can perform their functions. By a wise provision of nature, it is precisely at the time when the plants have the greatest need of moisture that it is most abundantly dispensed in the atmosphere; and this is due to the action of the sun which raises the vapor from the surface of the earth,—thus the cause of the one producing the other,—both the drought and the moisture.

A too humid atmosphere is equally not wanting in difficulties in the way of vegetation. Thus, when the vapors, condensed and brought together by a falling temperature, occur in the form of fogs, and these last for any length of time during the spring, at the time of the flowering of the fruit trees, there results great damage. These fogs settle in little drops on the anthers of the stamens; particles of the pollen are broken off before it has the chance of being thrown upon the stigmas; the fecundation is rendered thereby null, and the flowers fade and fall.

Air.—The influence of the air upon the growth of plants is due to the oxygen and carbonic acid gases which enter into its composition. What we have said above on the subject of nutrition renders superfluous any remarks upon the action of the fluid atmosphere and of its elements.

Light.—This is no less indispensable to vegetation. We have seen that it is light which produces the phenomena of nutrition in plants. It is this which regulates the suction and the absorption by the roots. It is also by its agency that the decomposition of carbonic acid gas takes place through all the green parts of the plants; a decomposition by means of which the carbon becomes free and in a state of minute division, is easily assimilated by the plants, and tends to the growth of their several parts. It is also to this agent that is due the watery transpiration on the surface of the leaves; a phenomena which enables the sap of the roots to free itself from its superfluous water and to be transformed into cambium.

When you wish to preserve fresh cuttings from a plant, your first care is to place them in the dark, so as to lessen the transpiration of water. This is a fact well known to florists when they wish to preserve their flowers from wilting, and to gardeners when they wish to transport buds to a distance.

It is also the influence of light which regulates in the leaves the formation of

juices which give the plants their particular flavor and perfume.

In short, the green color, so abundantly spread among plants, and the particular colors which distinguish each of their parts, are likewise due to the light, by means of which the cells of the flowers, of the fruit, and of the leaves modify diversely the fluids they contain and produce their various hues of color. A single experiment will suffice to verify the facts we have above stated.

If you place a plant of any kind in a place perfectly dark, it will continue to grow, but the new growth will show in its tissue but a very small quantity of carbon, because the carbonic acid gas not being decomposed, the carbon could not be fixed there. The watery transpiration no longer taking place, these tissues become engorged with a large quantity of watery fluids. It then results that these parts remain always soft and herbaceous; besides they do not show the green color which characterizes tissues grown in the light, and they will remain a yellowish white. In short, always insipid, they will develop neither the perfume nor the flavor which distinguish the species to which they belong. This last phenomena is especially remarkable in the instance of the wild chicory, which green, is of an intolerable bitter, and which bleached in the dark and in that condition known as "The Capuchin's beard," becomes almost entirely tasteless. Plants developed under such circumstances show all these accidents to which the term *stiolation* is applied.—(See Webster's Dictionary; Translator). It will be gathered from these facts that the more trees are exposed to the light of day, the more compact and hard their wood will become, because simply they can assimilate a larger amount of carbon. In fact the wood of a tree isolated on a high mountain, will contain more carbon, will be more hardy and of longer duration than the wood of the same species and of the same size, but grown in a thick forest.

Among the different effects of light on

vegetation, one of the most remarkable is that which it produces upon the direction of the stalks. For instance, place a growing plant in an apartment pierced with two lateral openings, the one giving access to the air without admitting the light, the other admitting the light with no passage for the air, and you will find all the branches direct themselves towards the second opening. The why and wherefore of this is as follows: When a leaf-bud (which has started) receives more light from one side than the other, the light side elaborates more completely the sap from the roots. There is on this side of the bud more carbon fixed in the tissus; these latter increase in length more gradually, because they are more speedily solidified, and besides the woody descending ducts which are formed in greater abundance at this point, also, arrest quicker the elongation of the ascending ducts. But the opposite side receiving a less quantity of cambium, and the descending ducts forming slower, the tissues elongate for a longer time. Now as the two sides of the same bud cannot separate themselves the one from the other, so as to grow each one in its own fashion, it follows necessarily that this bud must bend towards the side where it elongates the least, that is to say, the light side. This explains to us why it is, that the branches of a tree grown in espalier, which receive the light but from one side, tend constantly to direct themselves in front; why the trees on the verge of a forest incline their branches more to the outside than the interior; and in short why these same trees are, generally speaking, stouter, not so tall, and better stocked with branches than those of the interior of the forest, which show branches only near their summits, and never acquire a thickness proportioned to their height.

All these facts should be explained as happening from the influence of the light, and not as some have supposed, from that of the air, the free circulation of which, under these different circumstances, never acts in a contradictory manner.

ON GATEWAYS.

I HAVE often wondered why the professional writers on Landscape Gardening have so little to say of Gateways. Among the more pretentious authors of this class I find sketches of Gate-lodges, very charming in their details, many of them; but I find little or no mention of those modest gates which must hang at every man's door-yard—those unpretending swinging barriers, by which every country house-holder is shut off from the world, and by which he is joined to the world. They may be made to give a great deal of expression to a place; they have almost as much to do with it, in fact, as a man's mouth has to do with the expression of his face.

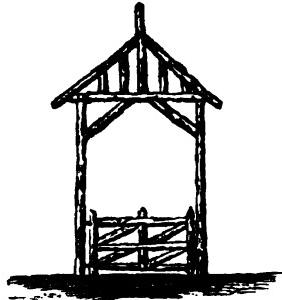
There was once a gate called "Beautiful," by which a lame man lay—we all remember that; there was once too a certain "wicket-gate" (with a great light shining somewhere beyond it) which Evangelist pointed out to Christian, whereby the pilgrim might enter upon the path to the Celestial City—we all remember that gate; and there was another gate, belonging to our days of roundabouts and satchels, by which we went out noon and morning, by which we returned noon and evening—on which we swung upon stolen occasions—a gate whereat we loitered with other philosophers, in other roundabouts and with other green satchels, and discussed problems of marbles, or base-ball, or of the weather—a gate through which led the path to the first home; well, I think everybody remembers such a gate. And thus it happens that the subject has a certain poetic and romantic interest which cannot be wholly ignored, and which I wonder that the landscapists have so indifferently treated.

Fancy, if you can, a rural home, without its gateway, lying all abroad upon a common! The great charm of privacy is gone utterly; and no device of shrubbery, or hedge, can make good the loss of some little wicket which will invite approach, and be

a barrier against too easy familiarity. The creak of the gate hinge is a welcome to the visitor, and as he goes out the latch clicks an adieu.

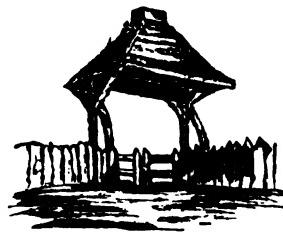
But there are all sorts of gates, as there are all sorts of welcomes; there is, first, your inhospitable one, made mostly, I should say, of matched boards, with a row of pleasant iron spikes running along its top, and no architectural decorations of pilaster or panel can possibly remove its thoroughly inhospitable aspect. It belongs to stable-courts or jail-yards, but, never to a home or to a garden.

Again, there are your ceremonious gates, of open-work indeed, but ponderous, and most times scrupulously closed; the very opening of them is a fatiguing ceremonial, and there is nothing like a lively welcome in the dull clang of their ponderous latches.



Next, there is your simple, unpretending, rural gate, giving promise of unpretending rural beauties within—homely in all its aspect, and giving foretaste of the best of homeliness within. And I make a wide distinction here between the simple rurality at which I have hinted, and that grotesqueness which is compassed by scores of crooked limbs and knots wrought into labyrinthine patterns, which puzzle the eye, more than they please. All crooked things are not necessarily charming, and the better kind of homeliness is measured by something besides mere roughnesses.

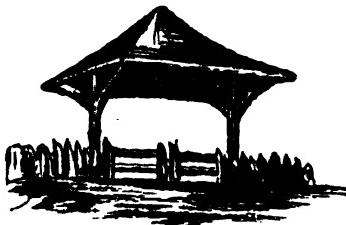
Lastly, there is your hospitable gate, with its little rooflet stretched over it, as if to invite the stranger-loiterer to partake at his will of that much of the hospitalities of the home. Even the passing beggar gathers his tattered garments under it in a sudden shower and blesses the shelter. And I introduce here a very homely specimen of this class of gates, which I remember to have sketched many years ago somewhere in County Kent, England.



Either my own pencilings were very bad, or else the engraver has failed to give the character of its rough rooflet; which, if I remember rightly, was but a thatch of broom, or of sedge. Yet who does not see written all over it—plain as it is—loiter if you like! Come in, if you like! And I love to think that some little maid, under it—in some by-gone year—said her good night to some parting Leander. Who shall laugh at this, that has ever been young? Are not the little maids, and the Leanders,

always growing up about us? I always felt sure when I found such covered wickets that no curmudgeon lived within.

A second example of somewhat more orderly proportions, but identical in expression, I take from my note-book of travel, finding it credited to some little hamlet of Warwickshire; the posts and supporting arms being of unhewn elm, and the roof a neat thatch of wheat straw, which at the time of my visit was gray and mossy.



Has not somebody somewhere a cottage home, whose homeliness would be enforced, and beautified by such a cosy, covered wicket of thatch?

Thatch indeed, does not take on with us, and under our climate, that mellow mossiness which belongs to it in Devonshire. Our winds are too high and drying, and the sun too hot. Still, a thatch properly laid,

will with us, keep its evenness for a great number of years; and for the benefit of those living within easy reach of the coast, I may say that nothing is better for this purpose than the sedge (so called) of the salt marshes.

In default of thatch, however, very pretty rural effects may be made by slabs (being log trimmings from the saw-mills), or oak

bark, (which is almost imperishable) or by scolloped shingles.

An example of the effect of these latter I venture to give :

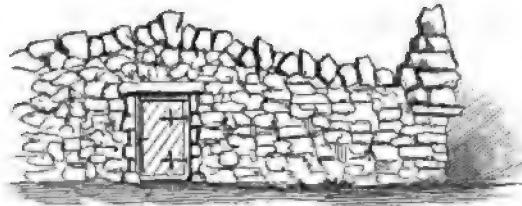


In this case, all beneath the roof is of cedar with the bark undisturbed, while the posts above the roof are trimmed to a square, tapering and carrying a ball—the balls and the tapering extremities of the posts being painted white, and the roof a dark red. The effect is exceedingly good—though it mixes the rustic and more finished work in a way which the professional artists do not venture upon. But I have lived long enough to know that professional traditions in all the arts—landscape gardening and architecture among the rest—stand in the way of a great many beauties. Every country-place wants its special art-garniture (without respect to traditions) as much as every pretty face wants its special environment of colors and of laces. When, therefore, I hear a man declaim against white gates, or red gates, or rustic gates, or stone gates, *per se*, without reference to their position, or suggestive aims, I condemn him as an iron methodist, who apprehends no beauty by intuition, but only by force of precept.

Perhaps I have myself rather hastily condemned all close gates, as belonging to stable-courts and jail-yards. There are situations, certainly, where they are not only allowable (as upon back-entrances of gardens) but where they contribute eminently to the air of privacy which must mark every true home. And I am reminded in this connection, of a certain garden doorway, which I once saw near Keightley in Yorkshire; it opened upon a narrow lane in the rear of the suburban grounds to which it was attached, and showed such homely, resolute determination to work up into tasteful shape the stones abounding in the neighborhood, that I made a rough draft of it upon the spot.

This picturesque use of rock material is appreciated, and practised in many parts of Great Britain. Thus in the neighborhood of the slate quarries of North Wales, near Caernarvon, the refuse material from the ledges is laid up by the adjoining proprietors in snug fences, that appear at a little distance away, to be crowned with a regularly

castellated battlement. This effect is produced simply by alternating cubical and oblong fragments of slate rock upon the summit of the wall.



In Derbyshire, again, I have seen a kindred effect wrought by the tasteful disposition of the big boulders which are scattered pretty thickly over some of the high moor-lands of that county. In Cumberland and Westmoreland, indications of the same rural adaptiveness abound; of some of these I shall have occasion to speak

more fully in future, and to give some striking illustrations.

Thus much has been suggested at present by my friend Lackland's request that I should supply for him the plan of a gate. I will see what I can do for him the coming month.

Edgewood, 2nd Aug., 1865.

OUR NATIVE CLIMBERS.

BY EDWARD S. RAND, JR.

THESE are indigenous to our woods and fields many very beautiful climbers or twining plants, which, in common with most native plants, have been overlooked in the passion for new exotics, and meet with unmerited neglect.

These plants impart the greatest charm to our woodland scenery, twining up the tall trees and robing them in green; converting dead boughs into a drapery of delicate foliage; hiding gnarled roots and fallen trunks, and by fantastic twining from bush to bush, contributing to the endless varieties of light and shade which make one of the chief beauties of our forest scenery. How bare our stone walls and rough fences would look deprived of the drapery of woodbine and blackberry; and what sweet odors would be lost to the air did not the wild grape fling its broad foliage alike over the barren rocks and the tallest trees.

There is nothing which so adds to the appearance of a country house as a judicious planting of climbing plants. Any one can call to mind the bare, desolate aspect of a cottage with no trees, shrubs, or vines

around it, and the improvement made when walls and piazzas are draped with graceful foliage, and a few fine trees and shrubs judiciously planted.

The many objections urged against climbers have rather an apparent than real foundation. Unless allowed to grow too luxuriantly, they neither injure the buildings or make them damp, and the little dirt from dropping leaves and flowers is more than compensated for in grateful shade and beauty of bloom.

Suppose the wild brier which decks all the hedges in June; the clematis, conspicuous for fragrant white flowers and wavy seeds; the staff tree or wax work, so ornamental with fragrant blossoms in June and scarlet fruit in autumn; the grape, with fragrant flowers, ample foliage and purple fruit; the Virginia creeper flaming with the touch of autumnal frost, were transplanted to the farmer's house, allowed to clamber at will over doors and windows, or even to surmount the eaves, would they not give a charm to the house; remove the barren look; relieve the glaring paint or

weather-stained boards by a border of nature's own painting, and be a grateful shelter from the rays of the summer sun?

And to accomplish this much-to-be-desired end, it is not necessary for our farmers to spend their hard earned gains. The fine exotic climbers which are imported at great expense, though beautiful and desirable, are in many cases far inferior to those inhabiting our highways and hedges, and have the disadvantage of being often too tender to endure the severity of our winters. The expense of climbers need only be the time necessary to transplant them and prepare a place for their reception.

The trellis need not be of wire, nor does it require a carpenter's bill for its completion. A cedar tree with the branches cut off about a foot from the trunk and tall enough to allow it to stand a foot above the door after setting it two feet in the ground is needed, and the woods will supply it. Place one of these on each side of the door, setting them three to four feet out; arch a cross piece from top to top; slope others from this to the house and fill in the sides between the house and the posts with pieces of the boughs disposed in squares, diamonds or triangles according to fancy, and you have a very pretty rustic trellis. Leave the bark on; it adds to the effect. If in a few years it peels off and becomes ragged, you will then have the trellis covered with vines.

If however a smooth trellis is preferred remove the bark, trim off the knots and give a coating of red ochre or asphaltum varnish, which will preserve the wood and prevent the lodgement of insects. The portion of the post beneath the ground should be charred to prevent decay. For a window a smaller trellis on the same plan may be made, and for grass plats or the garden the posts alone may be used and they are very ornamental covered with vines. If an arched trellis is built over the gate and vines twined along the fence, they add greatly to the attraction of the place.

The soil required for most climbers is a common loam enriched with well rotted manure.

The species of climbers obtainable, vary in different localities, but there are very few spots where some may not be procured with but little trouble. Let each choose those which are most obtainable.

As a general rule transplant in the spring; the only argument in favor of fall planting is that at the latter season there is less pressing work.

And first, the Clematis "Traveller's Joy" or "Virgin's Bower" is one of our most hardy and beautiful climbers.

It is a large family with many species; some herbaceous, some climbers, but only one is indigenous to New England, *Clematis Virginica*, which grows commonly by river banks, margins of streams and low roadsides.

It is a very ornamental plant with light green trifoliate leaves, with clasping petioles which support the plant. The flowers are composed of thin white petals and are very fragrant. The fruit is very ornamental, being composed of long tails of seeds.

This is a rapid climber and a good plant, will soon cover a trellis. In any locality where it abounds hundreds of seedlings may be collected. The plant is fond of a damp soil but thrives in any good garden loam.

C. viorna is a fine species with pinnate leaves and purple bell shaped flowers, a native of Pennsylvania and Ohio.

Atragine Americana is a beautiful plant nearly allied to clematis; native of dry rocky hills from Maine to Virginia. The leaves are ternate in whorls of four; the plant climbs, as the last, by its leaf stalks. The stem produces opposite axillary buds, from each of which in early spring two ternate leaves shoot forth, bearing a peduncle with a fine purple flower, two or three inches across, composed of four petals.

A pretty biennial climber is the Mountain fringe, (*Corydalis fungosa* or *Adonis*

cirrhosa). The foliage is delicate, the flowers flesh colored and very ornamental.—Being a biennial it cannot be depended upon for permanent shade, but the plant sows itself when once introduced. It is too delicate for a large trellis, but climbing with other plants is very pretty.

One of our prettiest and most graceful plants is the moonseed, (*Menispermum Canadense*). The flowers are yellowish, white or green, and are succeeded by a black fruit covered with a frosty bloom. It is a rapid climber; the stems die down in winter, but shoot forth in early spring. As the plant is dioecious, both sexes must be planted to obtain fruit.

There are two other indigenous plants of this family: *Coccinia Caroliniana*, native of river banks in Illinois and Virginia, with greenish flowers and red fruit, and *Colycolecarpum, Lyoni* or 'Cup seed,' native of Southern Kentucky, with greenish fruit and lobed cordate leaves; a rapid climber, growing to the tops of trees. These south of Pennsylvania might be worthy of cultivation.

It would be difficult to find a more beautiful climber than our wild grapes in their many species and varieties.

We regard the grape only as an ornamental climber, for other purposes, all our wild grapes and ninety-nine one hundredths of the "new hardy grapes" are perfectly worthless unless we propose making grape jelly, which is delicious, and for which the common fox grape is the best. But we say to all, plant grape vines for ornament; plant them for the beauty of the foliage, for the perfume of the flower; let them cover old walls, trees, fences, and rough places, and thus render unsightly objects beautiful. We have in this country six species of native grapes: of these, three, *Vitis Labrusca*, *V. asticalis*, and *V. cordifolia*, are natives of our Northern States; the other three, *V. vulpina*, *V. bipinnata*, and *V. indica*, are natives south of the Ohio.

V. Labrusca is our common wild grape with broad heart-shaped leaves, very white

underneath, flowers and tendrils produced opposite the leaves, flowers dioecious, greenish and very fragrant—berries large, purple amber or whitish, with a tough pulp. A rampant climber, often reaching the tops of the tallest trees. From this species the Isabella grape has sprung.

V. cordifolia (*vulpina* of some botanists). Leaves cut and toothed, green on both sides and thinner than the last. Berry small, black, with bloom, sour, ripening after the frost; flowers very fragrant; sometimes with the next called "Pigeon grape." A very pretty species for arbors.

V. asticalis. Leaves downy when young, smooth when old, green above. Not as common as the last. Berries small, sweetish, ripening in October or earlier. A tall climber, and like the last, desirable for arbors and trellises.

The Virginia Creeper, Woodbine, or Five-leaved Ivy, (*Ampelopsis quinquefolia*) is one of our most common and ornamental climbers. It is easily distinguished by its five oblong lanceolate leaflets, and grows by road-sides and on low rich grounds. The flowers are small green and ornamental; the stems climb to a great height supported by tendrils; the berries are small, black, with a slight bloom, ripening in September or later. During the whole summer the plant presents a dense mass of dark-green shining foliage, but with the autumn frosts comes the greatest beauty, the foliage changing to all the tints of scarlet, crimson and purple. There is no more ornamental climber; it is perfectly hardy—a rapid grower, and very clean. It thrives well at the roots of trees, and for the last few years we have planted one hundred each spring to clothe the naked trunks of old pines which thus become pillars of green all summer, and columns of flame all the autumn.

Another hardy and ornamental vine, not uncommon on rich soil, is the "Roxbury Waxwork, Climbing Bitter-sweet, Staff Tree," &c. (*Celastrus scandens*). It is a woody vine with close twining stem and a tall

climber. The flowers are greenish, and of little beauty; the foliage is oblong ovate of showy green. The fruit is a yellow berry which, when ripe, bursts open, showing a bright scarlet covering enveloping the seeds. The foliage in autumn changes to golden yellow.

We next come to a class of well-known favorite climbers, the Honeysuckle (*Lonicera*.)

The plants are too well known to need description, and are more easily procured from nurserymen than from the woods. Plants from seed bloom the third year.

There are some native species which are little known, and which should receive more attention.

L. hirsuta is a large foliaged woody vine often climbing twenty feet high. Leaves not glaucous, hairy beneath, oval, dull colored, the uppermost united, the lower shortly petioled. Flowers yellow in whorls—native of damp thickets.

L. sempervirens. Our common Trumpet Honeysuckle; flowers and berries red or yellow.

L. grata. A pretty species with smooth glaucous obovate leaves; flowers in axils of upper leaves, whitish purple turning yellow in fading, fragrant. Native of rocky woods, New York, and westward; common in cultivation,

L. Java. A species with smooth, pale glaucous leaves obovate or oval. Flowers in close whorls, light yellow—native of rocky banks, from New York westward and southward.

L. parviflora with greenish yellow flowers tinged with purple, grows about four feet high, but is not a climber.

To those who have not the Chinese Wistaria, (*W. sinensis*, often barbarously written "Wisteria Chinensis,") our woods furnish a beautiful species.

W. frutescens is a rapid and hardy climber, resembling the exotic species. The foliage is darker, the flowers deep purple, and the racemes of bloom very closely set; produced in June and July.

The Common Hop, (*Humulus lupulus*) is a pretty and useful vine. It grows spontaneously near the banks of streams. Root perennial, stem annual, in rich soil very strong. A plant of rapid growth. The attacks of the hop worm are easily prevented by syringing with whale oil soap when their presence is first perceived.

Solanum dulcamara, bitter sweet, or woody nightshade is a well known medicinal plant. The stem is woody, the flowers purple, succeeded by bright red oval berries, foliage dark green.

The plant in leaf, flower and fruit is very ornamental, and well suited for covering low trellises.

The other species, (*Solanum nigrum*) Deadly night-shade, is not a handsome plant. The flowers are white, the berries black. Both of these plants are introduced from Europe.

The nearly allied classes, Ipomoea and Convolvulus have some pretty representatives among our indigenous climbers.

I. lacunosa is a white flowering species, native of Ohio and Illinois, with heart shaped pointed leaves.

I. pandurata commonly called "Man of the Earth," is one of our finest climbers. The root is tuberous, often as large as a man's leg. The annual climbing stems are often nearly an inch in diameter, and in a few weeks attain the height of twenty feet. The flowers are white with purple tube and very numerous. The shoots usually appear above the ground about the last of June, and the plants is very ornamental until killed by the frost.

C. arvensis is not uncommon in cultivated grounds and by road-sides near the coast. The flower is reddish white and very pretty, but the plant spreads rapidly and will soon overrun a garden.

C. (Calystegia) sepium, a fine species with large white, pink or red showy flowers—not uncommon by road sides. Root perennial, stem twining, ten feet high. Well adapted for trellises.

The well known Horse Briar, (*Sambucus ro-*

tundifolia) is valuable if planted inside of exposed fences. It is a tall climber, often rendering thickets impenetrable. The leaves are ovate, shining; the stem green clothed with strong prickles; berries blue black. The foliage is very ornamental and the bright green stem is conspicuous in winter.

Dioscorea villosa; (but why "villosa," is a question) is a pretty slender climbing vine with greenish flowers, common in thickets, but not specially valuable as a climber.

In conclusion, we must include the rose, although not properly within the range of this article, as there is no climbing rose indigenous to the Eastern States.

The sweet briar, (*R. rubiginosa*) and the smaller variety, (*R. macrantha*) are both introduced from Europe, though often found growing wild. The only native climbing rose is the wild rose of the Prairies, (*R. setigera*) found from Ohio, westward and southward. From this, the fine cultivated varieties commonly known as "Prairie Roses," have been raised.

Our list of native climbers are far from being complete. We have only noticed a few of the best and most common, hoping our article may lead to a greater attention to "Home adornments," on which subject we may discourse more fully anon.

Glen Ridge, August, 1865.

THE HARVEST HOME.

BY G. P. DISOSWAY.

"The harvest! the harvest! once more we behold
Fair plenty array'd in its livery of gold;
We are spared to exult in its bounties again,
A year hath been granted, and shall we remain
Forgetful of Him who hath lengthen'd our days?
Great God of the harvest, to Thee be the praise.
Thou hast prospered our toils, and hath given increase,
And established the land in abundance and peace."

N. Y. MINN.

It has ever been a season of rejoicing when the labors of the harvest field were over and the enriching crops safely gathered. The early Greeks presented offerings to Ceres, whilst their husbandmen shared in the public joys of the autumnal season. In ancient Rome, too, warlike as her citizens were, they venerated the plough, and their heroes followed its silent furrows. Even Cato wrote a treatise on husbandry, and from it, he says, "*spring our strongest men and bravest soldiers.*"

These devotions, doubtless, were borrowed from the Jewish feast of ingathering, and this was a time of great joy. No feast was attended with greater rejoicings than that of the *Tabernacle*, when the Israelites returned thanks for the fruit of the vine, and joyfully expressed the expectation of the *Messiah*. During this festival, they

lived in tents, offering daily sacrifices to God, and carrying branches of palm, olive, citron, myrtle and willow, and frequently, repeated "Hosannah, save, I beseech Thee." While the trumpets sounded, they sang songs of thanksgiving, and their libation was the water drawn from the pool of Siloam.

The feast of the *Pentecost* was also called the feast of the harvest, and the day of first-fruits, when the Jews presented to Heaven in thanksgiving, the earliest gatherings of the harvest, in bread baked of raw corn. These offerings were called *first-fruits* because presented in the temple before any part of the crop was touched, and consisted of wheat, barley, grapes, figs, apricots, olives and dates. Such rejoicings continued a week. The first-fruits carried in procession by twenty-four persons, were preceded by the ox for sacrifice, with gilded horns and a crown of olives.

Nor were the poor forgotten—they never should be. When the triumphant armies should possess Canaan, by an especial ordinance of the Almighty, they were not to be neglected, as the olive was to be beaten

but once—the scattered grape was not to be gathered, and “*clean riddance*” was not to be made in the corn field. Its corners were to be unreaped and the forgotten sheaf left for the “poor and the stranger, the fatherless and the widow.” This was not simply an act of mercy, but enjoined as an ordinance with peculiar solemnity: “I am the Lord thy God; I have given thee all, and make this request.” How good is the Lord! At this season of fruits, grain and plants, let us not forget the needy and the destitute.

In harvest-time, as in sheep-shearing, we behold old and beautiful pictures. Abraham and Isaac and the early patriarchs have looked upon such scenes, for it has ever been a time of rejoicing. In Egypt, we see Joseph and his brethren, Abraham and Isaac, overlooking the harvest field from their eastern tents, David’s household busy in the fields, and Ruth—the beautiful Ruth—“weeping amid the alien corn.” What fine pictures for thought and mental delight! Enchanting as may have been the harvest fields of Egypt and Palestine, they cannot surpass in picturesque beauties, those in our own favored land. Here vast hills, dales and vallies wave with the golden grains. Reapers and gleaners all are busily engaged in gathering the enriching harvest. But the bringing home of the last load seems to be the grand picture of the harvest in old lands, and was the crowning thing.

In England, the farmer’s daughter used to be selected for the *Harvest Queen* and dressed very becomingly for the occasion with a little round straw hat, wreathed in ears of corn and convolvulus. She was always seated sideways on the leader, a fine chestnut colored horse, whose head was adorned with bunches of corn-flowers and blue ribbons. The driver’s hat was decorated in the same way, and so were the teams ornamented, “*true blue*” being the favorite color with the rustics. The last shock was left standing in the field, from the topmost sheaves of which long streams of blue, yellow and crimson floated. This was the “*harvest sheaf*,” the crown of the

field, and the last received on the top of the load, it became the most conspicuous gay object. Onward now goes the wagon with the last load, towards the village, every cottage hailing with a hearty welcome the procession as it passes along.

The custom was once very general among European nations, though differing in its details. In Scotland, the last cut handful was thus honored, and he who succeeded in this respect was said to have “*won the kine*,” or half-churned milk. The laborers followed the well laden stock cart from the field, crowned with ears of corn, and singing “*Harvest Home*.” An old poet thus sings:

Some bless the cart, some kiss the sheaves,
Some plant them up with oaken leaves,
Some cross the thill-horse, some with great
Devotion stroke the home-born wheat.”

But in this, as in other agricultural customs, a change has taken place; the old ceremonies and festive enjoyments which crowned the joy of harvest have been disappearing one by one. In our day there is not much regard for antiquities, and we are apt to pass into the opposite extreme.

The well-gathered fruits of the earth should ever be a cause of peculiar rejoicing, and thankfulness and the “*Harvest Home*” may well be sung in our favored land, when the husbandman returns “to bless his household,” after the toils and cares of his fields. How merciful and gracious is the Almighty! “*While the earth remaineth, time and harvest, cold and heat, summer and winter, day and night shall not cease,*” was the kind promise to the remnant who escaped the destruction of the deluge. From generation to generation since, the harvest field and its fruits have been preserved to man. The regular revolution of the season continue and the same kinds of corn, so waving in golden plenty over our fruitful land, once covered the fields of Egypt, Palestine, Greece, and Rome. Now as the sickle reaped its ripened crops, the sheaves have been bound and garnered for the support of man and beast. So good, again say, is the Lord!

The Clove, S. I., August, 1865.

CURIOSITIES OF VEGETATION.—No. III.

THE fashionable world of both city and country, during the last year or two, has been invited to adorn and ornament itself with various articles in the shape of pins, ear-rings, bracelets, &c., manufactured from ivory. This substance is one of the curiosities of vegetation. *Phytelephas Macrocarpa* does not sound, even if you can pronounce it, very much like breastpin, but it is the botanical name, we believe, of the vegetable Ivory-Tree, which is a South American Palm. The fruit at first contains a clear insipid fluid, which afterwards becomes sweet and milky, and alters its taste as it hardens, till at length it becomes nearly as hard as ivory. Other trees of the same genus, in various countries, furnish a similar substance.

The *Ficus Elastica*, or *Caoutchouc-Tree*, is a native of South America and India. It grows to a considerable size, has shining pointed oval leaves, and small, inedible fruit. The milk which yields the Indian rubber is obtained from incisions made in the bark of the trunk and branches. This juice separates into a firm elastic substance, and a fetid liquid. The juice yields about one-third its weight of caoutchouc.

The *Gutta-Percha-Tree* is widely scattered over the Indian Archipelago. It is from sixty to seventy feet in height, and from two to three feet in diameter on the average. The milky sap, which exudes from incisions made in the bark, is boiled, to drive off the watery particles; but, if a tree is only partially wounded, and a small quantity of juice extracted, it may be moulded in the hand, and will consolidate in a few minutes into the substance known as *gutta percha*.

The *Bassia*, or *Butter-Tree*, is found in various countries of the intertropical region. The *Sheah-Tree* of Africa resembles very nearly the American oak. The kernel of its fruit, when boiled, yields a white firm butter, as finely flavored as the best dairy butter. The *Palo de Vaca*, or *Cow-Tree*, of

South America, grows to a great size. One measured by Sir R. Ker Porter was more than twenty feet in circumference. The trunk shot up branches to the height of sixty feet, and then sent out vast arms and luxuriant foliage. The whole height was fully one hundred feet. The leaves are leathery, and about ten inches long. When the trunk is pierced it yields an abundance of glutinous milk, tolerably thick, free from all acridity, and of an agreeable flavor.

Another milk tree is found in Demerara, On piercing the bark a copious stream of milk-like fluid flows out. It is thicker and richer than cow's milk, destitute of acridity, but apt to leave a slight feeling of clamminess on the lips.

The *Urania Speciosa*, a native of Madagascar, is thus described by Blackhouse in his "Visit to the Mauritius and South Africa":—"Clumps of these trees, composed of several stems rising from the same root, are scattered over the country in all directions. The trunks, or more properly root-stalks which are about three feet in circumference sometimes attain a height of thirty feet. But, whether of this elevation, or scarcely emerging above the ground, they support grand crests of leaves of about four feet long and one foot wide, but often torn into comb-like shreds. The head is of a fan-like form, and the flowers, which are not striking for their beauty, are white, and produced from large horizontal green sheaths. The foot-stalks of the leaves, which are somewhat shorter than the leaves themselves, yield a copious supply of fresh water, very grateful to the traveler, on having their margin cut away near the base.

"Probably the water may originate in the condensation of dew, and be collected and retained by the peculiar structure of the leaf. It has a slight taste of the tree, but is not disagreeable."

The *Nepenthes Distillatoria*, or *Pitcher Plant*, which is common in Ceylon and other Eastern countries, has a pitcher-shaped bag

attached to the foot-stalk of each leaf, near the base. This curious appendage has a neatly-fitting lid, moveable on a fibrous hinge. By the contraction of this fibre the lid is lifted up, and dew or rain collected in the pitcher, which saturates the vessel. Then the lid descends and closes in the fluid so as to prevent evaporation, and as soon as the plant has drained off this supply, the lid opens again.

As instances of motion in plants, we may mention the folding of some flowers when the sun is absent, and the opening of others when he has departed. The white Marigold closes its flowers when rain approaches, and the dwarf Celandrina shuts up its crimson corolla at about four o'clock every evening.

The *Mimosa Pudica* is so sensitive that it is said that at Rio Janeiro the falling of horses' feet on the road sets whole masses of this plant in motion. The genus *Oxalis* possesses the property, in a greater or less degree in different species, of folding their leaves when stimulated. The Sundews have the surface of their leaves covered with long hairs which secrete a viscous substance. If an insect settles upon the leaf it is impeded by this secretion, and, before it can escape, the hairs curve round and pin the victim to the leaf. The stamens of the Barberry, when touched with a pin, spring forward and make a bow to the stigma. The *Oscillatoria*—common in ditches, ponds and damp places—have animal-like movements when young; now twisting themselves into the shape of an S, then straightening them-

selves, twisting again, and so on. The *Hedysarum Gyrans*, of Bengal, has compound leaves; the end leaflet being larger and broader than the two side leaflets. The terminal leaflet moves under the influence of the sun's rays. The two lateral ones rise and fall alternately, so that when one is up the other is down. The movements of these side leaflets continue day and night, but the rapidity of these movements varies at different times.

There is an Australian plant which erects a column formed by the union of parts of its structure, on the application of heat. The *Dionaea Muscipula*, a native of Canada, has leaves with broad leaf-like stalks. These fleshy leaves are armed with strong sharp spines, three on the blade of each lobe of the leaf, and with a fringe of longer spines round their margins. When an insect comes in contact with the base of the central spines, the leaf closes, impaling the insect or entrapping it. The leaf remains shut up, having its spiny fringe firmly interlaced until the body of the insect has wasted away.

Some plants are luminous, and the *Oreamnos Albus* will inflame if a light is applied, so that the bush may be enveloped with flames without being consumed.

When plants are budding, heat is sensibly liberated. A piece of ice placed on a growing leaf-bud melts, when it would remain frozen in the open air; and it is found that the heat on the surface of growing plants is several degrees higher than the surrounding air.

THE MELON.

THE Melon is the largest of all fruits, and yet it grows on the lowliest of fruit-bearing plants. It is a native of the milder regions of Asia, but was introduced into Europe before the time of Pliny, as that writer, when treating of gourds and cucumbers, after saying that "when the cucumber acquires a very considerable size it is known to us as the *pepo*" (supposed to be the

pumpkin) adds—"only of late a cucumber of an entirely new shape has been produced in Campania, having just the form of the quince. The name given to this variety is *melo pepo*." This fruit, it is concluded, must have been the melon, which still bears the botanical name of *Melo cucurbita*. The melon had been known, also, to the Greeks who were accustomed to soak the seeds in

milk and honey previous to sowing them, and even to wrap them in rose leaves, believing that when thus cradled in sweetness the fruit to which they gave birth could not but be mild and fragrant. How early it was brought into Europe is not known with certainty, although it is said to have been cultivated in England in the time of Edward III. It is more probable, however, that it was introduced into England from Italy during the reign of Henry VIII.; for in 1526, Gerard, though he had not himself grown it, yet mentions having seen it at "the Queen's hothouse at St. James," and also at Lord Sussex's house at Bermondsey, where he says, "from year to year there is great plenty, especially if the weather be anything temperate."

A native of warmer climates and provided by nature with a rind of such thickness that only extreme heat can penetrate to ripen the pulp within, when grown in England it needs, in addition to the artificial heat, as much as their Summer sunshine can supply of a more genial kind of warmth. It is sometimes grown from cuttings, which is a surer method of securing an unchanged perpetuation of the parent plant. But the usual mode of propagation is by seeds, which are tested, like witches of old, by being thrown into water, when, floating on the surface, ensures the condemnation of the melon-seed as certainly as it once did that of an old woman. Though melons are sometimes grown in the south of England under hand-glasses, like cucumbers, they cannot be generally reared there in the open air, since 65 is the least temperature at which the seeds will germinate, and from 75 to 80 is needed before the fruit can be ripened. A sheltered hotbed is therefore essential to their cultivation in that climate.

An annual plant, destined only to exist for the space of a few months, and yet to attain large dimensions in all its parts, the growth of the melon is very rapid, the newly-quicken seed soon sends forth tender, succulent shoots which, as they rapidly

lengthen, develope numerous large alternately-disposed, lobed leaves, accompanied by spiral tendrils; and in the course of the third month after sowing, the pale, yellow flowers begin to unfold their soft, limp, five-cleft corollas. In the course of five or six weeks after the setting of the blossom, the ponderous product may be expected to have finished its rapid course and reached maturity, evidenced by its having attained its full size; in some sorts, by the gaining also of a yellowish tinge, but most certainly by the exhalation of a powerful but pleasant odor; though some kinds give likewise the unmistakable sign of the stalk cracking in a little circle close to the fruit. In general it is rather difficult to discriminate the exact stage of maturity, and only experience can enable any one to determine with certainty the precise time when a melon has reached, yet not passed, its perfection. When perfectly ripe, a melon should have no vacuity, a fact ascertainable by the sound given out on gently knocking the exterior, and when cut, the juice should not run in a stream, but only gently exude to gem the flesh with dew-like drops of moisture. Small melons are generally esteemed as better than the larger ones, as the cultivation which secures increase of size, tends also to impair flavor; and the bulky giants of the race, produced by excessive manuring, are therefore rejected by good judges, who desire rather to gratify the palate than to please the eye. The fruit should be cut from the vine in the morning, and the majority of the finer sorts should be eaten the day they are gathered, though if cut a day or two before they are ripe, they may be kept for a week in a cool dark room, and some sorts will even keep for weeks, under these conditions; for light has a great influence in facilitating the chemical changes on which the ripening process depends, and its deprivation, therefore, tends much to retard decay: they should, also, not be laid down, but suspended in nets, so as to avoid pressure on the surface. The careful and expensive methods

of culture required in England, for the production of melons, are not necessary in this country, where they are found in great perfection, anywhere south of latitude 41 or 42.

The fact of the male and female flowers of the order cucurbites growing apart from each other, though upon the same plant, causes great care to be necessary in order to preserve purity of breed. Gourds and cucumbers must be kept apart from the melon beds, to prevent their pollen from impregnating the pistilliferous melon-flowers and thus producing hybrid, and inferior kinds. It is thus, by mixing various kinds, that so many varieties have been created as to have now become almost innumerable. But there are certain broad distinctions of widely different varieties. As far as the present writer is informed, the choicest and most reliable of these now in cultivation, are the thick-skinned, soon perishing sort, grouped together under the general name of Cantaloupes, the Citron and Persian Melon, and the Water Melon, of which, again, there are several varieties.

The type of the first class was probably the original, old-fashioned Musk Melon, characterized by the thick network of grey lines over its surface, and by possessing comparatively little scent, varying in size from one to thirty or forty pounds in weight, but being so uncertain in quality that out of half a dozen specimens, but one, perhaps, would be found good. One of the first to supersede the old Musk Melon, and still one of the most esteemed throughout Europe, though reckoned in this country but second-rate, was the melon which claims in a more restricted sense to be the owner of the name of Cantaloupe, having been so called from a town of that name, situated about fifteen miles from Rome, and where this fruit has been cultivated ever since the Mithridatic war. Usually nearly round, and of middling size, its exterior always rough and irregular, varying much in color, sometimes orange mottled with green, and sometimes green and dark brown; while

the flesh also assumes different tints, being in some nearly white, in others orange or pinkish.

The Citron, or green-fleshed melon, was brought into France by a Monk from Africa, in 1777, and has from thence spread into many countries, and given birth to numerous varieties. This is our favorite melon, in its several varieties, being one of the finest grown and yet peculiarly easy of culture, the climate of the middle and southern States suiting it better, probably, than any other melon.

The warm, dry climate and light genial soil of Long Island and New Jersey, are especially adapted to the culture of melons of any kind, but many other sorts require greater care than the green-fleshed favorite, without compensating for it by any superiority, and it therefore has few rivals in the New York and Philadelphia markets.

A very distinct variety, comparatively recently introduced, is the Persian Melon. The seeds of this melon were sent to England from Persia by the English Ambassador, in 1824, and were first planted in the gardens of the Horticultural Society, where they produced at once ten different varieties. The Persian melon is cultivated in this country, where it has attained great perfection and is much esteemed.

The plant which produces the Water melon is of a different species (*Melos citrullus*) and may be easily distinguished from the varieties of the *Melos cucurbita* by its deeply cut leaves, while the fruit itself shows an equally marked distinction in its smooth green surface. The Water Melon, as well as the Musk Melon, cannot be raised in England except artificially by the aid of the glass. Identified with the "melons" mentioned in Scripture, Water Melons are said to have originated in the Levant, but are found abundantly, and are probably indigenous, in India and China. They require very little care or attention, and immense fields of them are raised every year in the middle and Southern States.

A near, but very humble relative of the

aristocratic melon is our common pumpkin (*cucurbita pepo*), a far hardier plant than the melon. In a rich soil, for it is a gross feeder, the pumpkin, or, as it was formerly, and we are told still ought to be called, the *pompion*, grows luxuriantly and ripens its fruit perfectly throughout the States. In its favorite situation, trailing over a manure heap, it is not only useful in assisting to decompose crude material, but veiling the unsightly mass with its large handsome leaves, it can turn an eyesore into almost an ornament. Remarkably rapid in its growth, when well supplied with water, it will form shoots forty or fifty feet long, so that a single plant is capable of extending, in a single season, over an eighth of an acre of ground. Clum-

sily bulky in its huge growth, yet offering but few charms to the taster, the pumpkin early furnished a comparison for persons whose heads were larger than their intellects, and which it would seem "the world would not willingly let die," since it has survived from the time of Tertullian to the present day, the initial letter only slightly hardening when we now apply to a thick-headed clown the appellation of a "*bumpkin*."

It may be not inappropriately added that, in consideration of its rapid and extended growth, and the immense size to which its fruit attains, the *Cucurbita Pepo* is really "*some pumpkins*."

TRUFFLES.

MESSRS. EDITORS:—I find in an English periodical of several months back date some account of the Truffle and of the mode of procuring it which may afford your readers some interest, as it has me. As far as I know, this delicious esculent has not been discovered in this country; and we are indebted to foreign soils for what we prize as a great delicacy, and for which we are willing to pay at our best restaurants a large price. I know no reason why it may not be found growing in our own soil; and I should like to direct the attention of such of your readers as live in favorable localities for its production, to its characteristics, with a view to ascertain whether it may be found among us.

In the London market it is almost always sold as a product imported from France, and at a price from two to three dollars per pound. But more than three-quarters of the quantity thus sold, and that of the finest quality, is produced in English soil, and in reality supplied to the London markets by country dealers at a very low price.

Very little has hitherto been written about the Truffle; and we look in vain for any account of its habitat or methods of

propagation in botanical works. In scientific treatises it is classed in the ranks of the esculent fungi, like the mushroom, and is named the "*Tuber cibarium*." "There are few of nature's productions," says our English authority, "so extraordinary as this family of the fungi; and in no other country than our own are there so many varieties of the class to be seen, with their curious shapes, their beautiful colors, and their fairy rings springing up like magic after a night's rain or a damp day." Unlike the mushroom, this strange fungus is propagated *under* the surface of the soil. They are found where the soil is black, loamy, mixed with flint, or is composed of chalk and clay. They grow close to the roots of large trees, and seem to be propagated by the partial decay of their long, fibrous roots, and nourished by the drippings from their branches. They are found in shrubberies, plantations and woods, and sometimes in banks and ditches, but always where trees abound, beneath them or at a little distance from their stems. They grow in rings of clusters of six or seven together round each tree. "Nor will they flourish beneath every kind of tree, but frequent the oak, the lime and cedar, and

appear especially to love the beech, since wherever that tree grows with the richest luxuriance the truffles are found in great abundance and of the best quality."

The usual season when Truffles are found in England is the month of September; but their appearance depends very much upon the state of the weather. In a dry season the truffle-hunter will not look for them before October or November, and until sufficient rain has fallen for their production. In favorable situations and in damp weather they will grow in a few days. They will increase from a quarter to half a pound in weight, and in rainy seasons they will sometimes reach a pound, while they measure from four to six inches in circumference.

The Truffle resembles, externally, a rugged knot of an old oak, or a piece of decayed wood. This is the large truffle. There is another kind well known to the truffler, though ignored in scientific accounts, called the red truffle on account of its color, and is of the size of a pea, and equal in flavor to the larger kind. This larger truffle, when examined through the microscope, is found grained with fibrous lines, and is of a firm, tough texture, white in color when young, and growing darker until its ripeness is shown by becoming entirely black.

As the Truffle grows *under ground*, there

would be some difficulty in finding it were it not for the fact that, before it is cooked, it possesses a peculiar and unmistakable odor—so powerful and so peculiar that no imposition can be practiced in its commerce. The raw truffles when ripe and fit to eat possess this pungent and oppressive odor which will pervade the whole house; and they must be boiled or stewed when this odor will disappear.

This peculiar perfume is nearly imperceptible to the human senses when the fungus is growing beneath the soil; and for this reason the truffle-gatherer is assisted in the search for them by a peculiar breed of dogs that are trained for this purpose. "Clever little dogs they are, and trained from puppyhood to hunt the truffle out by the nose, and then to scratch it up with their long sharp claws. It is curious and interesting to watch the powers of nose possessed by these small dogs; how directly they perceive the odor of the hidden truffle; they rush to the place, straight as a dart, even at twenty yards distance."

Can you inform me, *Messrs. Editors*, who are supposed to know *all* about *every* thing, whether the Truffle grows in this country, and if not, whether it could be propagated by artificial means, like its congener the Mushroom?

HYBRIDIZING THE GLADIOLUS.

BY E. FERRAND, DETROIT, MICH., LATELY CHIEF OF CULTURE AT LEROY'S, ANGERS, FRANCE.

THE Gladiolus, by its graceful standing, the beauty of its flowers and the varieties of its colors has become one of the plants *le plus à la mode*, and is well deserving of the attention it receives.

The facility with which it hybridizes has led the present gardeners to give it especial attention, and they obtain many splendid varieties. Of all the interesting labors of the gardener, none is so exciting as artificial fecundation; for those not

acquainted with it cannot imagine what pleasure the successful raiser feels at the coming into bloom of a valuable new gift and no plant more than the gladiolus will afford pleasure in that respect, as if you only have two plants of different shades planted by each other, even if you let the fecundation make itself without any help on your part, the seeds produced by either plants will give you plants of a character different from that of the parents. When

plant is desired to be artistically fecundated all the stamens must be cut off as soon as the flowers open, by aid of fine scissors or little pincers, taking great care not to injure the pistil. Stamens are then cut from the plant you wish to ally to the former, and shaken finely over and upon the pistil of this one; the stamens of one flower are enough to fecundate all the flowers of the other plant, but to make it sure that the plant is fecundated the operation must be repeated every day for two or three days; it must be understood that the anthers which terminate the stamens must be open when the operation is made, so as to let the pollen drop off at the least shaking. Both plants may be fecundated by each others pollen, even if they do not flower precisely on the same day, for the spike of a gladiolus remains in bloom for two or three weeks, the flowers opening successively, beginning with the lower ones. Flowers that should not have been fecundated on account of their flowering too soon or after there was no more flowers on the other plant from which pollen was taken, must be cut off after they have done flowering, thus leaving on the plants those only that were operated on, so they will get more strength and perfect their seed.

Variety of colors is not the only object to be aimed at in hybridizing gladioli, but shape and largeness of flower must also be considered; and when a desired color is obtained, if there is something lacking in size and shape of the flower, a plant perfect in the latter must be selected and both plants worked together.

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Gladioli offer a richness of varieties not found with any other plant, and none repay the amateur better, as rarely the seedlings are like the parents, and they never are inferior to them, and one may calculate to obtain, at least, one very superior plant out of every ten seedlings.

In my father's nurseries at Cognac, France, where gladioli are extensively grown and seedlings raised, the plants selected to be hybridized and to produce seeds are cultivated in a separate spot, the seed is labelled when collected, in order to know the parentage, and thus compare, and then is sown at once in cold frames, and it comes up before winter, when the small bulbs are taken up, and afterwards planted again early in spring in very rich compost, most of them bloom the same year; they go through a very severe examination as they blossom, none but those that are a real improvement over the parents are numbered and put by, waiting a second examination, which comes at the next flowering, when they are definitely classed and named. The refuse, that is to say, those which have nothing extra to favor them with entering the extra selected list are thrown aside among the mixed varieties and sold as such.

I must not forget to mention that artificial fecundation can be operated at any time of day, if a fine day, but, from 8 till 10 at morning is preferable. It must not be done in rainy or cold weather.

"THE ACTION OF METALLIC SALTS UPON THE GROWTH OF PLANTS."

BY J. P. DAKE, SALEM, OHIO.

UNDER the above heading I observed with great pleasure, in the August number of the "HOAETICULTURIST," an article from Mr. J. M. Merrick, Jr.

The experiments detailed, showing the physiological or toxic effects of various substances acting upon plants, has awak-

ened a desire that they may be pushed yet further. I have long been a believer and advocate in the cause of direct experimentation. If nature abounds in truths and has her established laws governing all her domain, why should we be satisfied only occasionally, at long intervals, to stumble

upon them; or to learn of them only as she may by accident *suggest* them to us?

We should, in every department of Agriculture, as in Medicine, not simply be willing to know what nature teaches in the ordinary channels of every day life, but also what she teaches when we *interrogate* her; when, by all manner of experiments we question and cross-question her, as a skillful advocate does a witness, upon whose testimony hangs the life of his client.

The experiments of Mr. Merrick, so far as he informs us, were not made with any special reference to the diseases or Pathology of plants. Now we beg leave to suggest, as we most earnestly desire, that his trials with various Metallic Salts, as well as other toxical substances, be directed with regard to the *morbid conditions of plants*. For example,—we have various forms of blight and of mildew; we have the yellows, the gum, the black knot, &c. With these we have been battling for years, and yet must confess we have no effectual remedies against them. And here I must say, very briefly, that I do not attach the importance that many are inclined to grant to Microscopical researches or Chemical analyses, in looking for means wherewith to cure those destructive maladies. From present knowledge, I am persuaded that the "Sporidia," seen in the juices of trees, suffering with blight, are not the morbid cause, nor the essential disease to be treated. I view them as a *product* of disease, or if you please, an agency, commissioned simply to complete the dissolution of those fruits, leaves and trees, already doomed to de-

struction by an unseen, unweighed unmeasured influence operating upon the vital processes of those fruits, leaves and trees.

Hence, till proofs are afforded, in the shape of well authenticated facts, backing theoretical prescriptions, based upon microscopical studies of "Sporidia," I cannot yield my confidence to them.

And I have no more faith in efforts by chemical laws and means to regulate the vital functions of a plant, than I have of the human body. Chemical researches have taught us many curious and interesting facts in regard to the constituents and products of plants, as of the human body; yet by virtue of them simply, we can approach but the merest confines of vegetable, as of human disease.

What we need then, I repeat is, by diligent and careful experimentation, to ascertain how various toxical or medicinal substances affect a plant in removing it from a healthy condition.

When we have carefully observed and noted each departure, and every successive stage of each departure from a healthy standard in our plants, vines, trees, leaves, and fruits, both in nature and under the hand of toxical art, then may we begin to talk of the Pathology and the Therapeutics of the vegetable world, with some good prospect of practical as well as scientific results.

He who shall successfully devote sufficient time and means to these investigations, will be one of the earth's noblest benefactors.

REPORT ON GRAPES—ROT AND MILDEW—1865.

BY W. A. WOODWARD.

July 10th—The grape rot appears on the following varieties, some of them to a greater degree than I have ever seen, viz.—Alexander, Anna, Catawba, Concord, Cuyahoga, Diana, Hyde's Eliza, Lydia, Le Noir,

Logan, Mary Ann, Mead's Seedling, Manhattan, Mottled, Northern Muscadine, Perkins, To-Kalon, Taylor's Bullitt.

July 25th—The mildew shows itself on the berries of Anna, Allen's Hybrid, Cuya-

hoga, Herbemont, Hyde's Eliza, Le Noir, Logan, Lydia, Mead's Seedling, To-Kalon, and Roger's Seedlings, Nos. 1, 4, 5, 9 & 22.

Aug. 10th—The grapes which show no disease up to the present time, are Clinton, Creveling, Delaware, Franklin, Garigues, Hartford Prolific, Isabella, Isabella, Maxatawney, Miles, Rebecca, York Maderia, and Roger's No. 3.

Many reasons are assigned for these diseases. Two years since it was believed to be the excess of wet; last year it was the extreme dryness; this year being neither wet or dry, the cold nights and hot days are alleged to be the predisposing causes.

The latter cannot be the true reason, for we always have the hot days and cool nights at this season of the year, and should abandon the grape culture from Maine to Georgia, if it is true. We must look further back and consider; 1st, the attenuation of the vine during its early stages, propagated from feeble wood, and especially from green cuttings, to supply the excessive demand at the highest prices, and 2d, the temptations to convert weak plants into saleable ones by growing them in manure beds, and watered with chemical preparations to induce unnatural growth; 3d, unnatural (sometimes called scientific) pinching and heading-in of the vines during its growing season, continued from year to year. Experience shows that this treatment will develop disease in the 4th and 5th year, (if not before) and will ensure it ever after. The leaves are first affected, then the canes, then the fruit. Some fruit has the black rot only; others show first fungus on the fruit, and by the 7th year, both may be found on the same bunch. In all my examination I find the laterals pinched in and the bearing canes headed in.

The growing canes cut off at the top of the trellis, frequently from the highly philosophical reason that it looks better, and often for another equally sapient one, that it is a favorite theory, and has the sanction of many well informed grape culturists; and lastly, that the experiment can only cost the

life of the vine, and it is very easy to put out another. The latter conclusion is the only scientific and the only true one,—sure as death.

The grapes named by me above under the head of July 10th and 25th, were all purchased plants, now seven or eight years old, and have been up to and including the last year, pinched and summer pruned *recundum artem*. Those named under the head of August 10th, with few exceptions, were from cuttings and strong buds cultivated by myself, and never pinched-in or mutilated while growing. The pruning has been generally done in November, after the leaves have fallen, and in no case have either of them been covered during the winter.

Why then, may I ask, should we make every grapevine fit its iron-bedstead (trellis)? Why must the Delaware and Rebecca be over stimulated to make them grow to the proper length; while the Concord and Isabella are to be headed off for overgrowth? Some of the new varieties show no disease as yet, because the time has not come for its development; but depend upon it with perfect reliance, that summer pinching and pruning will produce it in the healthiest plants. Let us then study the constitution and habits of the grapevine in our climate. Let us remember that our hot days and cool nights are essential to the perfection and ripening of the fruit; that if the foliage is taken off by pinching, it has the same effect as removing the leaves when further advanced; that more or less leaves are scorched by our August sun, and if they fall, the remaining ones are needed to protect the fruit, and that nature provides no more than are necessary for that purpose. Let us practice this natural and rational method taught by the growth of native vines in their native woods, and by cultivated ones on high trellises and tree tops, where we cannot easily get at them, and let us report results of our observation to the *Horticulturist*.

Vail's Gate, Orange Co., N. Y., Aug., 1865.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. WOODWARD, 37 Park Row, New York.

BACK VOLUMES OF THE HORTICULTURIST.—We can supply but a very small number of back volumes prior to 1864. Those we have can be had post-paid, bound in cloth, for \$3 per volume, except for 1854, '55, '56, and 1857, which we will furnish bound and post-paid for \$2 50 per volume. We may possibly be able to make up one entire set, twenty volumes, and two sets from 1854 to 1865 inclusive, twelve volumes.

We should be glad to buy volumes for 1853, 1858, 1859, 1860, 1861 and 1863, in exchange for new subscriptions.

Vol. 1864, bound and post-paid and subscription, 1865, \$4 50.

Vol. 1864 and 1865, bound and post-paid and subscription, 1866, \$6.

KITTATINNY BLACKBERRY.—We are indebted to E. Williams, Esq., of Mont Clair, N. J., for a box of this fruit, which is large, handsome, and though not quite ripe, fine. On page 271 of our volume for 1863, will be found an illustration which conveys a good idea of the size and form of the berry. It somewhat resembles the Dorchester, being longer and of less diameter than the New Rochelle. We do not know in what way this variety originated, but presume it is a seedling of some of our native kinds found growing wild. We regard it as an acquisition to the blackberry family.

CURTIS' PRAIRIE MOWER.—We have been using, this season, in cutting our hay crop (50 tons) Curtis' Prairie Mower. This machine is operated on an entirely different principle from any other that we know of,

being that known as the Cam motion; the machinery is of the simplest description, and the labor of the team easy to perform. The land cut over, and the character of the grass, was such as to test severely the merits of a mowing machine, and we believe that any machine that will do this work in the same clean and expeditious manner, and with such ease to team and driver, must be a good one. These machines are manufactured by the well-known firm of E. A. & G. R. Meneely, West Troy, New York, makers of all the finest church bells in the land, and the price is less than *one-half* of that asked for any other of the leading machines. We are of the opinion that it will cut in a handsome manner any field of grass that a man of good sense would deem it advisable to put a machine into: furthermore it embraces the elements of one of the best One-Horse Mowers yet to be introduced to the public.

THE PENNSYLVANIA HORTICULTURAL SOCIETY propose to hold a grand Horticultural Exhibition, in the City of Philadelphia, on the 27th, 28th and 29th of September next, under a large pavillion or tent, no hall in Philadelphia being large enough to accommodate the immense thronge that attend these displays. The Fruit Grower's Society of Eastern Pennsylvania are invited to meet with them, and their discussions will take place in the hall of the Pennsylvania Horticultural Society, corner of Broad and Walnut streets, and begin on the 26th September. Tables will be set apart in the grand display for their collection of fruits, which have generally been very large and interesting. This last society embraces all

the principal fruit growers of Pennsylvania, and their proceedings are published yearly.

We are indebted to J. E. Mitchell, Esq., Chairman of the Fruit Committee of the Pennsylvania Horticultural Society, for a copy of their proceedings and programme for the year 1865. We have long wished to be able to attend a horticultural display of this character, and if our closely occupied time will permit, will venture to run over and take some notes.

SECKEL PEARS.—We have received (Aug. 14) from Mr. A. D. Webb, of Bowling Green, Kentucky, a box of very handsome Kentucky grown Seckel Pears, which reached us in prime order, and have been the admiration of all who have seen them. The Seckel Pear is justly esteemed about the finest of this class of fruit, and if we could add, in this section, the size and color which Kentucky soil and climate can do, we should be very close to perfection. Such pears would command a very fancy price, just at this time, on Broadway, and indeed, the possession of some of these specimens was highly prized by several of our best connoisseurs. Raising such pears must be a very fascinating pursuit.

THE THIRTY-SIXTH ANNUAL FAIR of the American Institute, of the City of New York, will be held in the spacious Armory of the 22nd Regiment, on 14th Street, in the City of New York, from Tuesday, the 12th day of September, to Thursday, the 19th day of October next. Every effort is being made, with the confidence of the management, to present to the American people an Exhibition that will surpass anything heretofore held, in extent, variety and grandeur.

THE THIRTEENTH ANNUAL FAIR of the Indiana State Agricultural Society, will be held at Fort Wayne, Indiana, October 2d to 7th inclusive, and in connection with it the Fair of the Indiana State Pomological Society.

THE EFFECT OF STRIPPING A COUNTRY OF ITS TREES.—The summer heats are beginning to dry up the springs and brooks which were lately so full and noisy, and the attention of observing people is again turned to the fact of the diminution, year by year, of the quantity of water in our streams at certain seasons, in consequence of stripping the country of its trees, and converting the forests into pastures and tilled fields. Almost everywhere our rivulets and rivers show, by certain indications in their channels, that they once flowed towards the sea with a larger current than now. If we go on as we now do, we shall at length see many of our ancient water-courses as nearly obliterated as Addison found them in Italy, when he wrote:

“Sometimes, misguided by the tuneful throng,
I look for streams immortalized in song,
That lost in silence and oblivion lie,
Dumb are their fountains and their channels dry,
Yet run forever, by the Muses’ skill,
And in the smooth description murmur still.”

This denuding a country of its trees has made the rivers of Spain for the most part mere channels for the winter rains. The Guadaluquivir, which some poet calls a “mighty river,” enters the sea at Malaga without water enough to cover the loose black stones that pave its bed. The Holy Land now often misses the “latter rain,” or receives it but sparingly; and the brook Kedron is a long dry ravine passing off to the eastward from Jerusalem, to descend between perpendicular walls beside the monastery of Mar Saba to the valley of the Jordan and the Dead Sea. Mr. Marsh, in his very instructive book entitled “Man and Nature,” has collected a vast number of instances showing how, in the old world, the destruction of the forests has been followed by a general aridity of the country which they formerly overshadowed. Whether there are any examples of frequent rains restored to a country by planting groves and orchards, we cannot say—but we remember, when traveling at the West thirty-three years since, to have met with a gentleman from Kentucky who spoke

of an instance within his knowledge in which a perennial stream had made its appearance where at the early settlement of the region there was none. Kentucky, when its first colonists planted themselves within its limits, was a region in which extensive prairies, burnt over every year by the Indians, predominated.

More than forty years since a poet of our country, referring to the effect of stripping the soil of its trees, put these lines into the mouth of one of the aboriginal inhabitants :

" Before these fields were sown and tilled,
Full to the brim our rivers flowed ;
The melody of waters filled
The fresh and boundless wood ;
And torrents dashed, and rivulets played,
And fountains spouted in the shade.

" Those grateful sounds are heard no more ;
The springs are silent in the sun ;
The rivers, by the blackened shore,
With lessening current run.
The realm our tribes are crushed to get
May be a barren desert yet."

The causes which operate to make the rains more frequent and the springs more regularly full in a well-wooded country are probably more than one. Under the trees of a forest a covering of fallen leaves is spread over the ground, by which the rains are absorbed and gradually given out to the springs and rivulets. The trees also take up large quantities of this moisture in the ground, and give it out to the air in the form of vapor, which afterwards condenses into clouds and falls in showers. All the snows, likewise, that fall in forests are more slowly melted and sink more gradually and certainly into the earth than when they fall on the open fields. On the other hand, the rains that fall in an unwooded region run off rapidly by the water courses, and that portion of them which should be reserved for a dry season is lost.

In some parts of the country, with a view of supplying the deficiency occasioned by the gradual diminution of water in the streams, they are beginning to resort to the old method of collecting the rains into reservoirs. In a part of Massachusetts con-

tiguous to this State, the county of Berkshire, the owners of the paper mills, on what is called the Windsor Branch of the Housatonic, have already begun the construction of a basin on that stream, at a spot in Windsor, just above a series of cascades sometimes called Windsor Falls, and sometimes the Waconnah Falls. Here, the mouth of a small valley, through which the stream descends, is to be closed by a wall of massive masonry resting upon a stratum of the original rock. No mound of earth would answer the purpose, nor wall of stone resting upon earth, since, if that were by any possibility to give way before the water pressing against it, in a time of copious rain, a flood would be let loose which would carry destruction to the villages below. By this reservoir a hundred acres or more will be covered to a great depth ; and as it is the centre of an extensive watershed, it will be filled in rainy weather in a very short time.

This example will probably be followed in other parts of the country by those who desire to secure a supply of water for their mills in such a season as we had last summer, when the want of water was very severely felt.—*N. Y. Evening Post.*

A HINT FOR THE LADIES.—A FEW WORDS ABOUT FLOWERS.—In the *London Society* for June there is an article on "Flowers and Foreign Flower Fashions," in which the writer describes the floral features of Paris, and gives these hints about flowers for the room :

" I must record the trellises that are covered with growing ivy, and that stand all summer-time in front of the empty hearth. In winter, I have seen them moved merely to the window. These long boxes have a trellis attached at the back and ends. A plant or two of ivy is enough to twine over the trellis ; and then, through all the season, a succession of flowers is kept up, in a way that is most effective—and to me the most satisfactory. But then I never can bear to think that things have no roots when they look to be growing. A range

of hyacinth glasses, however, are in the box. The glasses are, of course, completely concealed by the moss; and in each of these said glasses is a tightly-bound bunch of something—it may be asparagus leaves, as I have described just now, or it may be Japan lilies, or still oftener gladioli. Either of these flowers is perfect for such uses. The tall white lily also is exquisite in this way; only, of course, for a drawing-room its perfume is far too powerful; though, when such things are used, as in Paris, to place at the side of altars, nothing can be more lovely than these tall and most pure white lilies.

"The blue Michaelmas daisy comes in well for these stands too; but as it is always well to describe one definite pattern that is known to answer, I made a special note of one both good and attainable. A common green-painted box, like our mignonette boxes (of course this should be lined with zinc, or at least made without holes, the former plan being desirable for the drawing room carpet), about eight inches deep, and say ten wide, a slight cane trellis, looking like rods for basket-work, merely stained dark green on the back and ends, coming about as high as an ordinary chimney-piece; ivy trained over the trellis, to cover it a good deal, but by no means thickly, simply to wreath about it, especially at the edges; then the only flowers in this really effective stand were alternate hyacinth-glasses of blue Michaelmas daisies and of scarlet gladioli, with, between them, some pots of fern or grass, or of asparagus leaves. The ivy itself, I was told, had, upon emergencies, been cut from the woods too, and brought in and put in glasses, and trained to look all natural. And, after all, it is well to know this for any quickly got-up decoration, or for a screen to shut off some unused doorway or ugly view at short notice.

"By-the-by, too, at this season, all the trees in fresh leaf may be used just like holly in winter, by way of decoration, only by putting the cut end of the branch in a

jar with water and charcoal, and then closing the mouth with a lump of the potter's clay. What can be more lovely than horse-chestnut or acacia?

"But, in a stand like that which I have described, observe the good management—the tall flowers, not over *recherché*, being filled up with shrubbery, sort of things in perfect keeping with their style.

"Bunches of holly, also, are remarkably good and effective in all such cases. In fact, for the use of holly one must go to France for a lesson. It comes in at any time, and is used as a brilliant flower—and, indeed, the bright leaves and red berries are such as few flowers can deaden.

"I have seen the boxes just described filled up entirely with the ivy-grown trellis, branches like small shrubs of holly, some tall and tapering, others low and spreading; and with some one white flower, generally the single, large-fringed Chinese primroses, these being, however, comparatively few—perhaps three pots only put in amidst the holly; and the effect was perfect—warm, and green, and graceful and *distingué*—for somehow the holly is very aristocratic, and adapts itself to all circumstances with most perfect ease and grace.

"Much green with a little color is a rule that has a wide reign; and also it is remarkable how rarely one sees one color, but crimson and buff roses, violet and pink, pale sea-green and rose-color, or any of these, with white. This seems the prevailing thing as much in dress as in flowers, and as much in rooms as anywhere. But then, Parisians do compose room, and toilet, and flowers, all as a sort of picture."

LETTUCE is one of the most valuable, yet one of the most neglected, garden vegetables grown by farmers. Many who pretend to grow it only obtain a tough, bitter weed. When properly grown its leaves are tender and palatable to almost every one, as soon as large enough to eat; and when grown into solid heads it is a most delicious food for men or animals. There is nothing that

can be grown for summer food for poultry at greater profit than a crop of lettuce. It thrives best in a light, rich soil; a soil that is rich from prior cultivation rather than from the immediate application of manure. If it be wanted quite early—and that seems desirable—the seeds must be sown in a hot-bed in March, and transplanted in April in a spot favorably protected from cold winds; and even here it may need occasional covering. It only requires proper cultivation after this to secure a crop. Allow sufficient room between the plants for them to head out without crowding each other, and an occasional evening watering if the weather be dry. Some of the market gardeners start the plants in autumn, and preserve them over winter in a cold frame, and transplant them to a hot frame in spring, and thus have large heads in market in April. It is a good way for a farmer to prepare a bed deep and rich in autumn, and sow the seed so late it will not vegetate, and cover the ground with coarse manure, to be removed early in spring, when the plants will get two or three weeks the start of seed sown after the frost is out of the earth. The following named varieties are the best: Early White Butter or Cabbage, the Early Curled Silesia, Early Tennis Ball or Rose, and the Imperial Head, or Sugar Loaf.—*Tribune.*

CABBAGES—HOW MANY PER ACRE.—The great cabbage grower's about New York City generally calculate upon 10,000 heads per acre, allowing four superficial feet to each plant, which gives a surplus of 3,500 feet for missing plants. We suppose the crop may average 5 cents a head, giving \$500 an acre, which, considering it is a second or third crop of the season, affords a pretty good return. Cabbages often follow peas, with which radishes or early lettuce has been grown; and ground from which an early crop of potatoes has been taken is often planted with late cabbages. The soil for this crop must be rich and manure used unsparsingly. Hog manure is not approved

in this vicinity; it is said that it produces "club footed cabbages." The gardeners prefer rotation for this crop, though we have known good cabbages grown upon the same spot a dozen years in succession. Near a city there is no doubt about the profitability of the crop; and we believe it a valuable one for food for cattle and sheep. It increases the flow of milk, but it does not improve the quality. Irrigation is valuable where cabbages are grown, as they require a vast quantity of water as well as manure, with deep tillage and thorough cultivation.—*Tribune.*

THE CRANBERRY.—The cranberry plant is a low, trailing shrub, with very small, smooth, unserrate leaves and bright rose-colored flowers, having a four-toothed calyx and a corolla deeply cleft into four segments, which curve backwards like those of the common nightshade; a flower to which, in shape and size, they bear much resemblance, though differing in many other respects. They grow in small clusters at the ends of the branches, one blossom on each long curved flower-stalk; and when, in due course, they are succeeded by the crimson berries drooping at the extremity of these slender bending stalks, like the head of an aquatic bird at the end of its arched neck, the reason becomes sufficiently apparent why our forefathers bestowed on them the name of *crane-berries*. The plant belongs to the natural order of *Ericaceæ*.

DEATH OF SIR JOSEPH PAXTON.—Joseph Paxton, known all over the civilized world as the architect of the London Crystal Palace of 1851, and the inventor of a system of building which has been imitated in numerous large cities, and finds its noblest culmination in the Sydenham Crystal Palace, has lately died in England, where for some time he has been in infirm health. He was for many years a landscape gardener for the Duke of Devonshire, father of the present Duke. Having under his charge the celebrated pleasure grounds at Chats-

worth, he built there, from iron and glass, a large house intended for the protection of tropical plants and trees. It is said that the idea was suggested to him by the structure of a leaf.

At this time the International Exhibition scheme was under way, and Paxton presented a plan for the building, which was adopted. From that time he became famous. He grew rich, was made a knight by the Queen, and was elected to the British Parliament. Having risen from the people he always remained their friend and was on the liberal side. He was sixty-one years old at the time of his death.—*Post.*

THE first pink worthy of notice was raised in the year 1772, by Mr. James Major, who was then gardener to the Duchess of Lancaster; previous to which there were but four sorts, and those of very little note, being cultivated only for common border flowers. Mr. Major having saved some seed in 1771, he reared several plants, which, blooming the next season, one out of the number proved to be a double flower with laced petals, at which he was agreeably surprised, although he considered it as being only in embryo, and the prelude to some further advance, to be developed at some future period, which is now verified by the rapid strides this beautiful flower has made within a few years. Mr. Major also informed me that he made his discovery known to a professional gentleman, (a florist) who came to see it, and offered him the sum of ten guineas for the stock; but he declined the offer till he had consulted more of his floricultural friends, which having done, one gentleman told him he had done perfectly right in not accepting the offer, and advised him to increase the stock for the ensuing year, and then offer them for sale to the public. He took the hint, and accepted this advice of his friend, and sold it out to the public at 10s. 6d. a pair, under the name of Major's Duchess of Lancashire, the orders for which amounted to the sum of £80. One order

to a single individual of forty pairs was delivered at the above price; and I think I may venture to say that no person has ever been able to make half that sum by any new pink since.—*Gardener's Weekly, Eng.*

OYSTER BAY ASPARAGUS—A HINT TO ASPARAGUS GROWERS.—So superior in size and tenderness is the asparagus grown at Oyster Bay, Long Island, that while the common small grass has been selling at wholesale from 15 to 30 cents per bunch the season through, Oyster Bay grass has ranged from 25 to 50 cents, most of it at 35 and 40 cents; and the demand is far greater than the supply. We have seen a little very fine asparagus raised in New Jersey; but the majority is quite inferior to that grown on the Island. Why this difference is the query of growers; and not a few persons have visited the asparagus fields of Oyster Bay to ascertain their modes of culture, but have succeeded no better in subsequent trials. We advise them to try this method and report the result to *The Tribune*: Every one has noticed in a field or bed of asparagus that some shoots are at least double the size of the others, and that those roots gave large shoots each year. Let them mark these shoots and save seed from them alone, and raise their own roots. Select the strongest growing of these seedlings to raise future seed from; and if there is not a marked improvement in a few years, then the law which holds in the animal creation, and which Mr. Hallett proved was equally efficacious in "breeding up" wheat, fails in asparagus. We are firm believers in the axiom that "like begets like."—*Tribune.*

BIRDS.—It is no argument for destroying the birds that they do not rid us entirely of the worse enemy. We know, by abundant evidence, that the small birds which most frequent our gardens and dwellings, do dispose of an infinite number of caterpillars, grubs, flies, and worms, in feeding their young as well as themselves. That there

are still more than they can dispose of is no wonder, considering the destruction of birds which has been going on now, faster and faster, more and more spitefully for years past. It should be remembered that the insect increase goes on at an accelerated rate after the natural check is once impaired. The escaped prey of one pair of birds will not grow only up to spoil a half dozen vegetables, or specimens of fruit, but will bring forth a progeny which will ruin scores or hundreds of plants, and leave enough heirs to run through the property of many more. The horticulturist had better endure the depredations of the birds than the wholesale mischief of the wire-worms, slugs, larvæ, moths, &c.

A KITCHEN GARDEN OF 800 ACRES.—The *London Agricultural Gazette* gives a very interesting account of a tract of land between Plaistow and East Ham, on the east side of London, occupied as a tenant by Mr. W. Adams, whose father and grandfather before him had been in the same business on the same soil. "Thirty, fifty,

even seventy tons of cabbages and greens in two or three successive crops within the year, twelve to twenty tons of carrots, eight to a dozen tons of potatoes, followed by ten to fourteen tons of onions, and these again succeeded by greens and cabbages, are yielded per acre. As soon as one crop is off another is put in; the only respite is in the winter time, before the onion crop, when it is left bare for a season's frost.—The only rest it ever gets is an occasional crop of wheat or peas." There is another side, however, to the picture. The owner has contracts for manure with many of the largest stables, breweries, and cow-houses in London, and it is sometimes applied in the enormous quantity of 80 tons per acre. The land "increases annually in fertility." The total annual payments on the 800 acres are about \$100,000, (£20,000) including besides manures, \$30,000 for labor, upwards of \$25,000 for "rent, rates, tithes and taxes," \$7,500 for commissions to salesmen, &c. What the sales amount to is not stated. Seventy horses are employed.

CORRESPONDENCE.

TANGLEWOOD FARM, July 16, 1865.
EDITORS HORTICULTURIST, New York.

I am a small farmer,—both in the extent of acres and in personnel—and write you a few of my grievances, in hopes that you may spare time from, or at least add to your editorial labors, the perusal of this note, and give me through your columns the benefit of your encouragement. Your journal has been of great value to me, and I feel myself already obligated to you for the many useful hints drawn therefrom.

It was the intention of the Supreme Ruler that I should become a devotee to the science of Horticulture, and her sister Agriculture; so my thoughts ran, on a certain morning last winter, and as with me to think was to act. I accordingly straight-way became a devotee, and began to cast about me for the means of gratifying my

taste. To be sure, there was my "back yard" at home, but that was insufficient, entirely to small.

As I was only junior partner in a not very large jobbing house, in one of our small cities, my ready means were rather limited, and as a natural consequence I cast my eyes to the "*West*" for a home which should combine the qualities requisite to aid me in a beginning, and yet not go beyond my purse in its cost.

My star—whether lucky or not, I have never discovered, as my lot seems to be about the same as other mortals—led me to a most beautiful prairie in Missouri, only a short distance from the aristocratic old city of St. Louis, in fact, so near that I can reach it in two hours by rail.

Having found the place, the next thing was to prepare to begin business.

Having consulted my wife, we came to the unanimous conclusion that we would buy none but the best articles, even though we bought less of them.

I had already supplied myself with quite a number of the standard works pertaining to the subject, and had slightly read them all, and thoroughly a few.

I bought a pair of Horses—of a dealer—and a fine Durham cow,—with a pedigree as long as the moral law—and started for our new home.

Arrived there, the first discovery of importance was, that *our cow was dry*; the wiseacres,—they're always ready—said 'twas just what was to be expected, that "*them ere blood ceuvous want no 'count, no how,*" and that I'd "better sell her fur beef."

What, sell an animal for such purposes, in whose veins coursed the blood of many generations, whose ancestors were the noblest where all were noble? No; I could not hear to that, but my wife said that "baby must have milk to drink;" so another cow, and better, I was assured, was bought. She had a calf, and the milk which was shown me by the honest German women, was very rich, and in good quantity. I still had faith in my Durham, and by continually "stripping" at her, she again yielded her usual allowance of milk, —about a gallon per diem—but beyond that she would not go.

I next discovered that my horses were baulky, and that my harness was entirely too light for the work. My plowing could not stop, so I was obliged to hire one of my neighbors to do it for me, much to the merriment of the balance of them, I suppose.

I went next and bought an "old mare," that was recommended as being *very steady*, so she was; she would work tolerably well for a half day, and then "give out." She was then literally steady,—in her tracks—for she could hardly be induced to move, even to go to the stable.

I will not burden you with the recital of the trouble with servants, and how my oats

did not yield as much by 15 bushels per acre as my neighbors, &c., &c.

I have (this spring) read the work, which, of all others I should have read first,—"Ten Acres Enough"—and literally made it as the author did, enough for the kind of business in which I was about to engage. We are now satisfied that we have attempted to do too much farming for the stock on hand (of knowledge and capital).

My original intention was, to devote my entire farm to fruit, or at least all but enough to raise feed on for *my stock*. I have been partly dissuaded from it this season, but will return to the original idea with renewed energy, and I hope an increased capital.

Sad to relate *all the early apples* in my orchard are *Gennetings*.

I am only showing you my commencing year, and how many discouragements an amateur is likely to meet with at first.

My Blackberries are now doing finely, (in fall bearing) and my Cherries did well; but my Raspberries, Currants and Gooseberries were an almost entire failure—from the neglect of my predecessor, I think,—to his disgrace be it said, he did not have a strawberry on the place, but those which grew wild in the fields. I have some of those under cultivation, and should they prove as good as they promised in their wild state, I'll send you a sample.

Notwithstanding all these discouragements, I am satisfied each day more and more, that my adopted profession is the one for me to follow, and hope that in another year I may be able to give you a better record.

Hoping that your valuable Journal will fire all with as true a love for the science as it has me, I am

Yours, respectfully,
CHAS. H.
Naylor's Store, St. Charles Co., Mo.

CALUMET, ILL, May 20, 1865.
Mr. A. S. FULLER, author {
of GRAPE CULTURIST. }

Dear Sir,—A few days since, receiving

an earnest invitation from an amateur vineyardist in Northern Indiana, to visit his grounds, with a view of pointing out and correcting, or guarding against, if possible, the havoc some, to him unknown enemy, of the insect tribe—as he supposed—was making with his vines. I complied, and found a fine vineyard of two years old plants set out last spring,—a year ago now—had last fall been cut down to two buds, and received a judicious counter covering, but his borders settling during the winter had carried down with them his vines which were well rooted, and left a basin around the stem of each vine, say three to four feet in diameter. On filling this basin partially, the lower bud pushed from below the surface of the ground, and in almost every instance this shoot had been cut off by the common cut worm. The shoot of the upper bud being a little hardier from its exposure to sun and air, had, in many instances escaped; yet, on many of these to the height of six to twelve inches up the new shoot, the worm had ascended and continued his destructive work. I at once caused a thorough search in and around all the vines, and a hard crushing of the worm. In and immediately around many hills we destroyed upwards of fifty worms, and at once encased the vine with a hastily constructed box made in the shape of a triangle or V, of two pieces of inch boards one foot long and one foot wide for sides, and one strip of clap-board one foot long and six inches wide across the bottom of the front. These boards were all sharpened a little to settle in the ground an inch or so, and a piece of mosquito netting drawn over the remaining open space, the wide part of course opening to the south. This proves effective protection against the cut worm, and the insect enemies of the vine, like the flea beetle, which on these sandy lands, at this season, often visit it. This will now, I think, give the secondary or accessory buds a chance to push and preserve the life of the plant. New beginners are this spring troubled to a very great extent in their vineyards with

this cut worm, my own grounds not exempt; but my long experience and ready means to deal with all enemies of this nature have rendered their efforts of but little injury. The trouble seems confined to sandy soils, and complaints have reached me from Southern Wisconsin, Michigan and Northern Indiana and Illinois. If you would draw attention to this through the columns of the *HORTICULTURIST*, it would do much good. The extensive circulation of your valuable *Culturist* gives your name an authority which will make your suggestions heeded. Not knowing the name of the post-office where you have moved to in New Jersey, I send this to care of Messrs. Woodward. Make any use of this communication you see fit; your own experience will, no doubt, enable you to point out a more effectual remedy against this than I could.

With much respect, truly yours,

JAS. T. DURANT.

On confining these worms in a glass jar, I find of all the leaves given them, that of the grape they most prefer and greedily devour. Every mail now brings me inquiring letters how to protect the writer's vines from the cut worm. Since your book made its appearance, vineyardists have very generally cut down their vines in the fall to two buds. The vineyards hereabouts being planted but recently, and are, of course, mostly of young vines. I have found the worm at 3 o'clock in the morning at work, not only cutting the stem, but devouring the leaf 18 inches above the ground.

J. T. D.

To J. M. MERRICK.

Grape seeds need cracking to make them come up quickly. In clearing land the wild grape comes up plentifully where brush have been burnt. This suggested the idea of cracking my grape seed; so I took some Delaware seed, tied them in a rag and buried them an inch or two for the winter. In the spring I broke the small end off so I could just see the sprout, planted them in

a small pot near the stove, kept them watered well, and in a week or two one after one was showing his crooked neck above the ground.

I hope, in a few years, you may see the great American Seedling, just as if one grape could be great when we have so many good ones already. Grape seedlings are equal to apple seedlings, and who expects to get anything in the apple line very much superior to what we have. We have a seedling grape in Ohio, which has probably the largest bunch and berry combined of any American seedling; still it lacks in quality, and I'll wager two cents that the Great Agriculturist Strawberry is not equal in flavor to Hooker or Burr's New Pine, only with those that have plants to sell at 75 cts. each.

There! a boy says, this minute, "I like the Catawba better than the Delaware; the Delaware is too sweet." We have lots of boys that like sour fruit as well as sweet. Some people say they like the Isabella better than the Catawba. I expect, according to the philosophers, (Draper, Spencer, Seward,) the public *taste* is becoming more and more *complex*, and no doubt we shall be ready for anything new in the grape line, and if not ready some of the learned Doctors can differentiate new ones.

Ohio, May 6th.

A. J. M.

EDITORS OF HORTICULTURIST:

Dear Sirs,—In your August issue, I notice an article entitled, "More Neglected Flowers," which is calculated to mislead your readers. Your correspondent is right in considering *Corydalis aurea* a rare plant; but he then goes on to describe a different species, (*C. glauca*) and the whole description makes it evident he has never seen the plant of which he writes.

C. aurea is a low growing plant, never attaining the height of *C. glauca*. The whole flower is golden yellow, no "red, orange, or pink" about it. *C. glauca* is *not* rare, but a common inhabitant of dry, rocky hills; is by no means confined to

"Roxbury, Mass.," but may probably be found in every town in the State. The plant described by Mr. Merrick, is the same he exhibited at one of the weekly shows of the Massachusetts Horticultural Society, in May last, under the name of "*Sephrosia Virginica*," than which no plant can be more unlike.

As he has at last somewhat approximated to the true name of the plant, a helping hand may be of use to him.

The Indian Turnip is by no means uncommon in cultivation; we can name many gardens where it may be found.

The Side Saddle Flower (*Sarracenia purpurea*) is of easiest culture; transplants well, and is very ornamental as a parlor plant if set in a vase of wet moss; the leaves are freely produced in winter under this culture.

Calypso borealis can hardly be called a "neglected plant." It is our rarest native orchid, a plant so scarce that nature has not given cultivators an opportunity to neglect it. Not one botanist in a hundred has ever seen anything but a dry specimen.

Mr. Merrick has been singularly unfortunate in his choice of plants, and very careless in the *information* he imparts. The primary qualification for a teacher is to be familiar with the subject on which he writes.

HARVARD.

{ BRIGHT BANK, ULSTER Co.,
N. Y., July 12th, 1865.

MESSRS. EDITORS,—In the fall of 1861, I prepared a border on a bank with a southern exposure. I removed sufficient soil, which was clay covered with sand in spots, underdrained it, and composed my soil 14 feet wide and 3 to 4 feet deep.

I made an upright trellis 6 feet high, then carried it horizontal 10 feet till it struck the bank. I then planted my vines alternately, Delawares and Dianas 4½ feet apart and 4 feet from the trellis. The second year I dug a trench to the trellis, and buried them the first week in June, when they were in blossom. The growth was very strong, and the Dianas I pruned and

trained over the horizontal trellis, and the Delawares on the Thomery system, occupying with the two arms the nine feet between the Dianas.

Last year I allowed them to bear moderately, and this year, as to quantity, I am permitting them to take their own course. As I walk under the Dianas, I never saw so beautiful a show of fruit, as the bunches hang down from the trellises. I was led to count them, and I found on one Diana vine 169 bunches; the largest bunches and largest berries that I ever saw of the Diana when full grown; and on the Delaware, immediately under, there were 93 bunches. As I am a novice I do not know if this is very large or not, but I am quite certain they *show* more than I have before seen. There are 11 Dianas and 10 Delawares, and the vines will be 4 years from planting this fall. J. B. S.

EAST ROCKPORT, Ohio, July 17, 1865.
MESSRS. GEO. E. & F. W. WOODWARD,

Dear Sirs,—You probably suppose that one dealing in Patent-rights and manufacturing Self-Operating Gates, would have no taste or love for rural pursuits. I am at least an exception, and find that these pursuits are not only delightful and pleasant, but profitable. My inventive genius will some times come out and must be taken care of, especially when it is a "valuable invention."

I wish to call your attention to a very late cherry that I have on my place that is just getting ripe this, the 17th July.

The fruit is very large and smooth, and the curculio does not trouble it; color light red; flavor like the May Duke; the tree is a great bearer. Prof. J. P. Kirtland thinks it is not described and says: "It is very valuable on account of its lateness." It is at least ten days later than any in this vicinity, and I think it is a new kind.

When clearing off the fruit trees and digging up my yard preparatory to planting ornamental trees, I saved what I thought to be a morello sprout and set it out, which

proves to be what I have described above. What do you think it is?

My Grapes never looked better.

Very respectfully,

E. NICHOLSON.

BLOOMINGTON, ILL, July 20, 1865.

MESSRS. WOODWARD,

HORTICULTURIST, 37 Park Row, N. Y.

How in the very midst of life we are in death! C. R. Dorman, Ex-President of the State Horticultural Society, and one of the earliest and best known of our Western Nurserymen, died yesterday the 19th, at 9 o'clock, A. M.

None more active and earnest and pure hearted and better beloved in all the craft, —we mourn his loss most bitterly. Ill but a few days; cut down so suddenly in the very prime of life and usefulness it is a great affliction. With his large family circle there will be thousands to join in grief and sympathy, for none of us see how to do without him.

In grief, F. K. PHOENIX.

HIGHTSTOWN, N. J., Aug. 21st, 1865.
GEO. E. & F. W. WOODWARD.

Gentlemen,—I send you three small bunches of Adirondac Grapes. The bunches are small, but I presume it is owing to bending down the vine in order to make all the layers I could. It ripens with me before the Hartford Prolific and of much better quality.

Truly yours, ISAAC PULLEN.

These grapes were ripe, sweet and tender to the centre when received, August 22nd.

ED.

THE MAN WITHOUT A COUNTRY.—This remarkable narrative, upon its original publication in the pages of the *Atlantic Monthly*, attracted more general attention and comment than any article printed for a long time. It is now republished in separate form, by general desire, and at a price (ten cents a copy,) which will give it universal circulation at this period.—Boston, Ticknor & Fields.

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The reports returned to us of the rapid and luxuriant growth of those we have furnished in past years, enable us to recommend these with entire confidence.

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Our prices will merit the attention of DEALERS and PLANTERS. RESPONSIBLE AGENTS are wanted in every town to form clubs, or to spend the season in calling. Large commissions will be given to such as can furnish reliable references. None other apply. Address, with stamp.

WM. PERRY & SON,

June 4th

BRIDGEPORT, CONN.

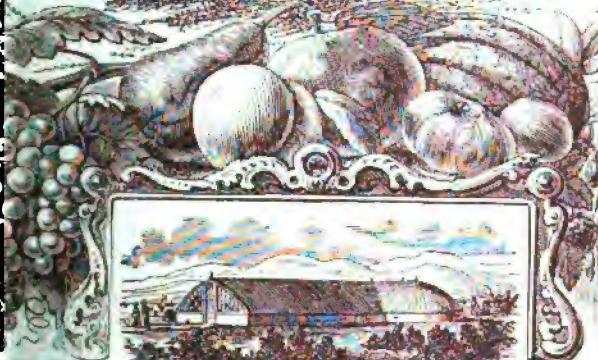
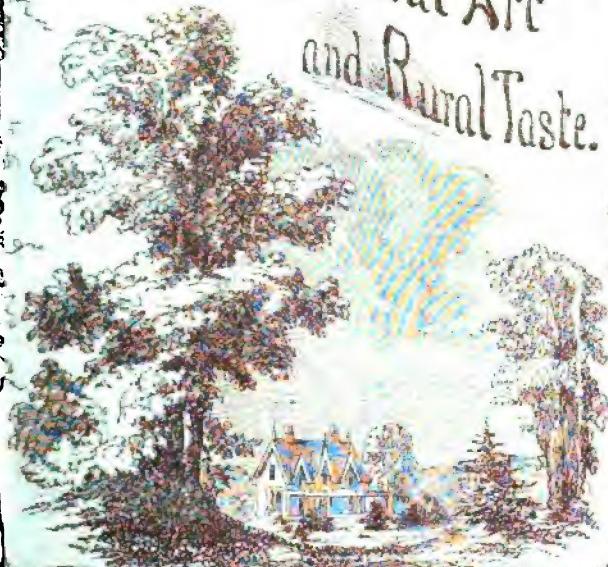
OCTOBER, 1865.

C. G. Loring
Auburn place

ESTABLISHED IN 1846.

THE **HORTICULTURIST**

Journal of Rural Art
and Rural Taste.



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VOL. 20,-----1865.

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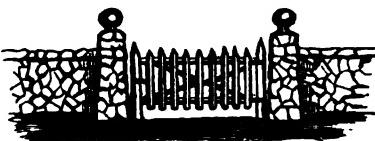
THE
HORTICULTURIST.

VOL. XX.....OCTOBER, 1865.....NO. COXXXII.

GATEWAYS AGAIN; AND RURAL CARPENTRY.

On turning back to the HORTICULTURIST for March—I trust the reader preserves a file (as he certainly should do)—he will perceive, from the drawing of my friend Lackland's grounds, that he has need of three principal gateways—a small one for the footpath, being the entrance nearest to the village; a larger one for his drive, and a third opening, for his grass field. This last he will not have very frequent occasion to use; for that reason the gateway should not be very striking, or seem specially to invite entrance. Supposing that the occupant has availed himself of the old walls about the premises to build a substantial stone fence along a considerable portion of in front, I should advise that he mark this side entrance by two substantial columns built of the same material, and place between them a gate or movable panel of iron, constructed of cedar poles, or such other homely or lasting wood as may be most available.

I give a rough drawing of what I would propose.



Design No. 1.

I think that every one will admit that these columns have a tasteful effect, and add largely to the architectural character of the wall. And it is a great mistake to suppose, as many do, that such columns require hammered stone, or that it is requisite that they be laid up in mortar, and by an adept in masonry. All that is required is, that stones carrying fairly-developed angles should be laid aside for its construction—that the face of the column should project three or four inches from the surface of the wall in order to mark distinctly its faces, and that it be bound in firmly with such long

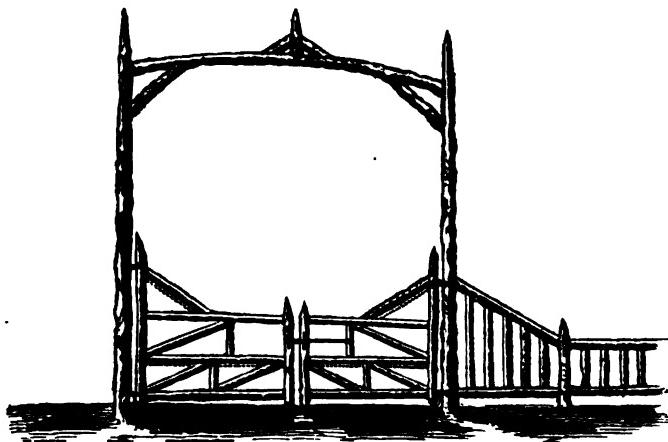
stones as are available. A boulder sufficient-
ly round to crown the structure may be
found in almost any rod of old country wall;
and if it be well covered with lichens, so
much the better. The great error in such
attempts is in attempting too great nicety,
which by contrast with the homely farm-
work around it, offends more than it
gratifies. In humble art, as well as in the
highest art, there must be keeping.

But though finical nicety is to be avoided,
and such hammering out of faces, as to in-
crease largely the expense, and defeat the
economy which should declare itself unmis-
takeably in all rural decoration, there
should be no sacrifice of solidity. A column
that will not stand for years had better
never be built.

The country wall layers, ordinarily are in-
disposed to attempt such work, either

doubting their own capacity, or considering
it an encroachment upon the province of
the mason. The consequence has been, in
my own experience, that of some half-dozen
or more which stand here and there about
the fields at Edgewood, every one has been
laid up with my own hands; and I may
ever, with some pride, that after eight or
ten winters of frost, they still stand firmly
and compact. One only has lost its capping
boulder, which certain errant boys could
not resist the temptation to tumble off,
that they might watch it's roll down a pretty
declivity of an hundred rods, or more. I
wish I had no more grievous charges to
bring against errant boys.

For the entrance to the drive-way, sup-
posing that my friend Lackland has plenty
of cedar at hand, I give another design:



Design No. 2.

And I have this much to say in favor of
it, that a similar one was erected at Edge-
wood nine years since, and its gates have
swung back and forth a dozen times a day
without, as yet, a single hammer's stroke
in way of repair.

The dotted lines upon the right half of the
gate indicate two half-inch iron rods which
were passed through and fastened by a nut
upon the longer upright sapling. Once or
twice it has been necessary to give this nut
a turn or two with the wrench, and this

completes the tale of the attention it has
required.

The first panel (and part of the second) of
the fence to which it is attached, is given
to show its relation to its surroundings,
and the perfect simplicity of detail which
belongs to it. The posts are firm and can-
not swag. The gates are light—perfectly
braced, and held in place by the iron rods
which pass through them. They bid fair
to last until the sap portion of the wood
(cedar) is fairly rotted away. The three

horizontal arms are inserted with tenons; the braces are fitted only with the gouge, and made fast with wire nails. And here I wish to enter a plea for the wire nails, used all over the continent of Europe, but, as yet, little known with us; though, I believe, they are to be found in the larger hardware shops of New York. The advantage of them is, that they can be driven without splitting the wood—that they can be clenched effectively, and—what is of importance in light work—they add very little to the weight. For the construction of interior rustic work of twigs and bark, they are invaluable. They may be found of all sizes, from that of a cambric needle (and a half inch in length) to that corresponding to our "ten pennies," and lighter by two-thirds than these.

under the bark, thus loosening the latter, and filling it with an ugly yellow powder. I have observed, in my own experience, that the ravages of this insect are much more decided and constant upon cedar cut in the winter than upon such as has been cut in the growing season of the year. The fact, however, may be accidental, and I must confess utter ignorance of the habits and tastes of this disagreeable grub.

The virtue of all such rustic work as I have commented upon lies in its exceeding simplicity, joined to great serviceableness. Home repairs do not tell badly on it; the joints need not be arranged with mathematical precision; the materials are near at hand and inexpensive; the creeping vines cling to it lovingly; it wears age with a veteran sturdiness.

I am by no means prepared to say that my friend Lackland will adopt my views on this head. I suspect that his country or city joiner, when confronted with the hints I have thrown out in these gate sketches, (they are really intended for nothing more than hints) will shake his head doubtfully, and lay before my friend some stupendous affair of carpentry, with an infinitude of mouldings, which, to his eye, is vastly finer. And I shall expect Lackland to yield to the charm of the rectangular elevations that are set before him; or, if he absolutely insists upon the working up of what stray cedars, or other wood, may be about the premises, I shall expect his carpenter to make such a bugbear of the exuding pitch, and of the impossibility of bringing his square and his guage into requisition, and (if he goes on), to keep so resolutely by a determination to counterfeit, as far as possible, all the mouldings of his joiner work, that he will construct a cumbersome affair, at such great cost of labor, as will disgust my friend Lackland, and at such cost of simplicity as will disgust every tasteful observer.

What then? There can be no doubt of the possibility of working this unruly material into tasteful forms, that shall have practi-



Design No. 3.

The third gate (No. 3) is equally simple, and, in way of ornamentation, has only its little rooflet. The design represents this as of equal width with the gate; but a somewhat better effect may be secured by an extension of the roof some six or eight inches on either side, in which case, of course, the posts must be cut off even with the ridge, and finials of cedar sticks adjusted at either end. This bit of roof over the gateway gives not only the hospitable air, which I remarked upon in the previous paper, but serves to protect the rustic work from the weather to such a degree that the bark will hold fast for double the length of time. In all such work, great annoyance is given by an insect which devours the sapwood

cal and economic uses ; but in the ordering of this matter, as in the ordering of a great many others connected with rural life, if the proprietor can put no zeal into his intention, and has no eye for the charms of

homeliness, let him abandon the pursuit. A good fence of white pickets, with gate to match, will keep the pigs out, and the young Lacklands in.

Edgewood, Sept. 1865.

GREEN-HOUSE PLANTS AND NO GREEN-HOUSE.

BY EDWARD S. RAND, JR.

WHILE almost every house in the country has its garden, comparatively few have a green-house, and yet every garden must depend much upon the green-house for its summer display.

Hardy perennials and annuals, though most desirable and comprising many beautiful and popular plants, do not fill every need, and we are driven to seek the aid of the numerous family of bedding plants for the adornment of our garden. In addition to these there are many green-house plants which add much to the attraction of the garden, if grown in pots, and judiciously interspersed here and there, either by sinking the pots or by placing them at prominent points, such for instance as turns in the walks, the centre of round beds, or the top of mounds. Now if we have a green-house, it is easy to have these plants and to winter them without trouble, but a green-house is a luxury which few can afford, and the object of our article is to show how we can produce, in a great measure, the same results without its aid.

Premising now that the object of a green-house is to merely winter plants for summer blooming, we may attain the same end by the use of means which are within the reach of all ; these are the cellar and the cold frame. The general use of the former is for wintering plants which will not bear frost, of the latter for plants which will bear a moderate degree of frost, but which suffer or die from the effect of the winter's sun.

THE CELLAR.

Almost every house has a cellar, and yet the great proportion are unfit for wintering plants. A good dry, light, frost-proof cel-

lar is as desirable a part of a house as a dining-room or parlor, and yet the cellar is generally a damp, low, ill-ventilated, dirty apartment, unfit for every purpose for which it should be adapted. The effect of such a cellar upon the atmosphere of the house cannot be other than hurtful, and thus deleterious to the health of the inmates, (this consideration is, however, aside from our subject) and for wintering plants they are useless, for no plant would survive a winter in such a place. A cellar for plants should be at least ten feet from floor to ceiling ; this will generally be quite deep enough to be frost-proof. The floor should be either clean gravel or cemented. If the location is damp, deep trenches should be dug all around and filled in with fine stones to draw off all water, and these trenches should, if possible, communicate with a blind drain that all water may be carried off. Light should be afforded from windows on the south, east or west, there should be no opening on the north ; these windows should be hinged at the top so as to afford free ventilation if desired. The cellar walls should be pointed ; the ceiling may or may not be plastered ; it is well to whitewash the walls. If there is a furnace in the cellar it is best to brick off a portion for the plants, as the constant heat would excite the plants to growth ; and sufficient heat in a cold night can always be afforded by leaving the door open between the two parts. In building, if possible, use only stone or brick for all portions below ground.

PLANTS FOR THE CELLAR.

These are mostly hard wooded plants, succulents and bulbs.

Soft wooded and stove plants seldom

succeed, the former continuing to grow and exhausting themselves in the production of weak branches which there is not light enough to ripen, and the latter dying for want of moisture; or should that be supplied, damping off for want of sufficient heat. We must not expect our plants to give us flowers, or even to grow, the main object of the cellar is to preserve through the winter, our plants for summer decoration; our aim should be to keep the plants as nearly in a state of rest as possible, and if we can, in the spring, take them out in as good condition as they were when we put them in in the autumn our cellar is a success.

Plants which are thus allowed a season of rest, grow with greater vigor during the summer, often doing better than those which have grown all winter in a greenhouse.

The winter treatment is very simple; once or twice a week the plants should be examined, any decaying leaves removed, and enough water given to prevent them from drying up. Different plants require different treatment, in this latter particular succulents need very little; once a month is sufficiently often for Cacti, Agave, etc.; but hard wooded plants, such as oranges, Indian fig, &c., may need water twice a week, and tender evergreens, such as *Cupressus Lawsoniana*, Yews, &c., need only sufficient to keep them from drying.

The temperature should range from 40° to 55° Fah; air should be given by opening the *sunny* window on clear warm days; care must be taken, however, not to chill the plants, and not to allow a cold draft to blow over them.

AGAVE AMERICANA, the American Aloe or Century Plant. This in all its varieties is one of the stateliest and most effective plants for summer decoration.

It is of the easiest management, requires little water and may be placed in the darkest part of the cellar. The plants should have large tubs, and all suckers should be removed as soon as large enough, and potted

to increase the stock; they are of slow growth and large plants are not common.

The variety with striped or variegated foliage is the most striking.

YUCCA.—These plants, like the *Agave*, are of stately appearance, and give a tropical effect; their chief beauty is in the foliage, though the flower is showy. They require a similar treatment with the *Agave*.

Y. aloefolia grows about three feet in height; *Y. angustifolia*, two feet; *Y. filamentosa* is hardy. *Yucca gloriosa*, four feet; *Y. superba*, ten feet. The varieties with variegated foliage are desirable.

The flowers of all are greenish white, produced on a stem many feet high in a close panicle.

AURACARIA.—The two species are *A. imbricata*, the Chili pine, and *A. excelsa*, the Norfolk Island pine; neither are hardy, but both can be easily wintered and are noble plants for summer decoration.

RHODODENDRON.—There are many varieties which are too tender to endure our winters. These, planted in tubs and wintered in the cellar, grow vigorously and bloom profusely. In the summer they should be set out in a shady place and not allowed to dry; in winter give only enough water to keep the earth damp.

AGAPANTHUS.—In a previous article we have given directions for the treatment of this fine plant. Give it a light place in the cellar, and if possible, where it will have a little sun—water enough to keep it from drying up.

HYDRANGEAS.—These need but little care beyond seeing they do not dry up or damp off.

OLEANDERS, (*Nerium*).—These will be at rest; care should be taken not to excite them into growth.

CRAPE MYRTLE, (*Lagerstroemia*).—Of the two species of this beautiful shrub, *L. indica* is the more common; *L. speciosa* is of more dwarf habit with rosy flowers. It should have rest in winter in the coolest part of the cellar; be re-potted when put

out in spring, (or it may be set in the border,) will grow vigorously all summer, and flower profusely in August.

POMEGRANATES, (*Punica*).—Treat as Oleanders. The double flowering varieties are very showy.

ORANGE AND LEMON TREES, (*Citrus*).—Give as much light as possible. They often begin to grow in March and April, when they should, if possible, be removed to the parlor where they will bloom profusely. During the summer a piazza is a more suitable place for them than a full exposure, as the sun is apt to affect the foliage, turning the bright green to a dirty yellow.

FICUS INDICUS, (*INDIA RUBBER TREE*).—Keep in the lightest and warmest part of the cellar—water moderately. This is a difficult plant to keep in good condition, the foliage often turning yellow.

CYCAS REVOLUTA, Sago Palm, (so called)—Water sparingly, and keep in as much light and heat as possible—if there is a part of the cellar very warm and light many of the palms, such as the various Zamias, Latanias, &c., may be wintered without difficulty.

These are but a few of the plants we may winter in the cellar. The care required to ensure success is trifling, and is well repaid by the summer beauty of the plants.

All cellar plants should be housed before the first sharp frost.

THE COLD FRAME.

This is a most important adjunct to a garden; there are many plants which we cannot have in full beauty without its aid, and many which are usually kept in a greenhouse, can, by this simple provision, be wintered with perfect success.

The cost is trifling, a few boards, nails and an old sash will give you all that is necessary. A larger outlay, however, is not thrown away. It is a good plan to construct the sides of masonry, stone capped with brick, and set deep enough to be below the frost line; lay a heavy wooden sill on this on which the sashes run.

These beds may be divided by brick partitions in larger or smaller compartments, and can be used for hot-beds or cold frames at pleasure. They are not very expensive when we consider their durability and the many useful purposes they may serve. A range of this kind in our own garden, sixty feet long, cost, (including excavating) a few years since, 125 dollars; but, at the present time, (Oct., 1865,) owing to the increased cost of labor and materials, such a bed could not be built for less than three dollars per running foot.

A cheap cold frame, which will answer every purpose for wintering plants, may be thus constructed: Choose two planks, each six feet long and running from 18 inches in width at the top to 12 inches at the bottom; at right angles to these nail two cross pieces at top and bottom of corresponding width with the width of the top and bottom of the sides, that is, the top piece 18 in. by 3 ft., the bottom 12 in. by 3 ft. We thus have the frame—on each side nail a strip of board projecting about an inch to hold the sash in place—our frame will then be 3 ft. by 6, which is the most convenient size, and will have a slope of six inches, which is necessary to carry off the rain. Choose a situation where the water will not stand in winter and set the frame close upon the ground, banking up the sides with earth firmly pounded down. If it is intended to winter the plants in pots the inside of the bed may be made hard—a thick layer of coal ashes makes an admirable ground to set the pots upon. If, however, the plants are to be set out on the frame, the bed must be of common garden loam.

The plants should be set on the bed about the middle of October, but the sashes should not be put on until the nights become very frosty. Water will not be needed, as usually at this season the ground is sufficiently moist; plants in pots may, however, require it.

On the approach of cold weather cover the plants with leaves, packing them close;

put on the sashes and cover these with a piece of matting, to prevent the sun from forcing the plants into growth, and leave all till spring. On the approach of warm days remove the leaves and water a little so the plants may start into a moderate growth before being transplanted to the garden. Care must be taken to protect from frost after the plants begin to grow. As a general rule, the first to the tenth of April is early enough to uncover cold frames.

Care must be taken not to winter field mice in the frames, where, if they once obtain a lodgement, they will destroy every thing in the frame.

PLANTS FOR COLD FRAMES.

In general, all the plants commonly classed as "half hardy," may be wintered in cold frames. We propose only to mention a few of these, however, which are particularly adapted for decorative purposes.

TRITOMA.—This is a genus of stately plants with liliaceous leaves and tall spikes of showy flowers. Although long since well known inhabitants of the garden, they have, within a few years, been prominently brought to notice and are now in great favor for planting in beds in lawns. They should be transplanted from the border to the frame about the latter part of October, and kept well covered with leaves. The different species differ but little in the color of the flowers, which in all are orange or scarlet tipped with yellow and green, but vary much in the season of bloom. With us, *T. Burchelli* blooms early in August, followed by *T. pumila*, *T. glaucescens*, *T. uvaria* and *T. serotina*.

CARNATIONS.—These should be layered after blooming, and about the last of September the rooted layers transplanted to the frame—the plants will become well established before the heavy frosts when they should be covered with a thick covering of leaves, the sash drawn on and left till spring; then transplant to the garden or bloom in the frame as may be desirable.

CHINA OR TEA ROSES.—This lovely family may be grown without a green-house, and planted out will give profuse summer bloom. After the severe frosts have killed the young growth take up the plants and "heel them in" in the frame, covering the roots well. Protect with leaves, and in the spring prune back to a few eyes and plant out for the summer.

The same treatment will ensure success with the Bourbon class and the more tender Perpetuals.

ANTIRRHINUMS.—Transplant in October, cover well and replant in May.

DIGITALIS or **FOXGLOVE** is often winter-killed; treat as antirrhinum.

PANSIES.—This favorite plant suffers much from a wet open winter, but may be successfully grown in a cold frame.

Sow the seed or root cuttings in August; transplant to the frame; uncover the plants about the first of April or earlier and they will soon be in bloom.

DAISIES.—Treat as Pansies.

CHELONE, PENSTEMON.—Treat as Antirrhinum.

HUMEA ELEGANS.—A most striking plant. A biennial requiring winter protection. The seeds should be sown in spring; transplant to small pots; winter in a frame, giving plenty of air when the weather is warm enough to prevent frost. Transplant to larger pots in spring, and so on till all the plants are old enough to bloom.

ZAUCHNERIA CALIFORNICA.—A pretty plant requiring to be kept rather dry in the winter frame. The fuchsia like flowers are very ornamental.

A cold frame is also useful for wintering autumn sown annuals, and may be put to many uses we have not enumerated.

A cellar and cold frame are both essential to the florist, and were we called to give up one, it would be difficult to tell which would be dispensed with.

Glen Ridge, Sept., 1865.

CULTURE OF THE ROSE.

BY F. PARKMAN, JAMAICA PLAIN, MASS.

POT CULTURE.

MANY of the ever-blooming roses cannot, in our climate, be cultivated in the open air without extreme precaution to protect them from the cold. To grow them most successfully the aid of glass is necessary. Many of the hardy perpetual roses also may be grown with advantage in pots, by which means their bloom may be prolonged into the early winter months, or they may be forced into premature flowering long before their natural season of bloom. The first essential in the pot culture of roses is, the preparation of the soil. Those of delicate growth, like most of the China and Tea roses, require a lighter soil than the more robust varieties, like most of the hardy perpetuums. A mixture of loam, manure, leaf-mould and sand, in the proportion of two bushels of loam to one bushel of manure, one bushel of leaf-mould, and half a bushel of sand makes a good soil for the more delicate roses. For the more robust kinds, the proportion of loam and of manure should be greater. In all cases the materials should be mixed two or three months before they are wanted for use, and turned over several times to incorporate them thoroughly. They are frequently, however, mixed and used at once. The best loam is that composed of thoroughly rotted turf. A very skilful English rose grower, Mr. Rivers, recommends the compact turf shaved from the surface of an old pasture, and roasted and partially charred on a sheet of iron over a moderate fire. We have found no enriching material so good as the sweepings from the floor of a horse-shoer, in which manure is mixed with the shavings of hoofs. It is light and porous, and furnishes, in decomposing, a great quantity of ammonia. For the more delicate roses it is particularly suited, while the

stronger kinds will bear manures of a stronger and denser nature. The light black soil from the woods is an excellent substitute for leaf-mould; or, to speak more correctly, it is a natural leaf-mould in the most thorough state of decomposition. Young and thrifty roses which have been grown during summer may be potted for the house in September. They should be taken up with care, the large straggling roots cut back and all bruised ends removed with a sharp knife. The ends of the branches should also be cut back. They may then be potted in the compost just described, which should first be sifted through a very coarse sieve. The pots must be well drained with broken crocks placed over the hole at the bottom. Care must be taken that the pot be not too large, as this is very injurious. A sharp stick may be used to compact the soil about the roots, and from half an inch to an inch in depth should be left empty at the top to assist in thorough watering, which is a point of the last importance.

When the roses are potted, they should be placed in a light cellar or shed, or under a shady wall. They must be well watered, and it is well to syringe them occasionally. In a week or two they will have become established, and may then be removed to a green-house without fire and with plenty of air, care, however, being taken to protect them from frost at night.

The roses so treated are intended for blooming from mid-winter to the end of spring, and we shall soon speak further of them under the head of forcing.

A great desideratum is the obtaining of roses in the early part of winter. This may be done by growing ever-blooming roses in pots in the open air during summer,

plunging the pot in the earth and placing a tile or brick beneath it to prevent the egress of roots and ingress of worms.— Towards the end of August, cut off all the flowers and buds, at the same time shortening the flower stalks to two or three eyes. Then give the roses a supply of manure-water to stimulate their growth. If they are in a thrifty condition, they will form new shoots and flower-buds before the frost sets in, and may then be removed to a cold green-house, where they will continue to flower for several months.

FORCING.

"Forcing" is the very inappropriate name of the process by which roses and other plants are induced to bloom under glass in advance of their natural season. We say that the name is inappropriate, because one of the chief essentials to the success of the process, consists in an abstinence from all that is violent or sudden, and in the gentle and graduated application of the stimulus of artificial heat.

Roses may be forced in the green-house, but not to advantage, because the conditions of success will be inconsistent with the requirements of many of the other plants. The process is best carried on in a small glass structure made for such purposes and called a forcing pit.

A pit ten or twelve feet long and eight or ten wide will commonly be large enough. It may be of the simplest and cheapest construction. In a dry situation there is advantage in sinking the lower part of it two or three feet below the surface of the ground. The roses may be placed on beds of earth or wooden platforms, so arranged as to bring the top of the plants near the glass, and a sunken path may pass down the middle. The pit may be heated by a stove enclosed with brick-work, and furnished with a flue of brick or tile passing along the front of the pit and entering the chimney at the further end. The lights must be moveable, or other means provided for ample ventilation, and, if these are such that the

air on entering will pass over the heated flues and thus become warmed in the passage, great advantage will result. A pit may be appended to a green-house, in which case it may be heated by hot water pipes furnished with means of cutting off or letting on the water.

The roses potted for forcing as directed in the last section should be kept in a dormant state till the middle of December. A portion of them may then be brought into the pit and the young shoots pruned back to two or three eyes. The heat at first must be very moderate, not much exceeding forty-five degrees in the daytime; and, throughout the process, the pit should be kept as cool as possible at night, great care, however, being taken that no frost is admitted. With this view the glass should be covered at sunset with thick mats.—Syringe the plants as the buds begin to swell, and lose no opportunity to give air on mild and bright days. Raise the heat gradually till it reaches sixty degrees, which is enough during the winter months, so far as fire-heat is concerned. The heat of the sun will sometimes raise it to seventy or eighty degrees. Syringe every morning, and, if the aphis appears, fumigate with tobacco, then syringe forcibly to wash off the dead insects. As the plants advance in growth they require plenty of water, and as the buds begin to swell manure-water may be applied once or twice. When the buds are ready to open the pots may be removed to the green-house or drawing-room, and another supply put in their place for a second crop of flowers. When the blooms are faded the flower-stalks may be cut back to two or three eyes, and the plants placed again in the forcing-pit for another crop. This, of course, is applicable to ever-blooming roses only.

The most common and simple way, however, of obtaining roses in winter is, to grow them on rafters in the green-house. Some of the Noisette, China and Tea roses thus treated, will furnish an abundant supply of excellent flowers. By pruning them at dif-

ferent periods during the summer and autumn, they will be induced to flower in succession; since, with all roses, the time of blooming is, to a great degree, dependent on the time of pruning.

Roses potted in the manner described for forcing, may also be brought into bloom in the sunny window of a chamber or drawing room. They will bloom much better if allowed to remain at rest in a cool cellar for a month or two after potting.

PROPAGATION OF THE ROSE.

There are five modes of propagating the rose; by layers, by cuttings, by budding, by grafting, and by suckers.

PROPAGATION BY LAYERS.

This is, perhaps, for the amateur, the most convenient and certain method. The best season for layering is the summer, from the end of June to the end of August, and, for some varieties, even later. The rose which is to be multiplied should be in a condition of vigorous growth. Loosen and pulverize the soil around it, and, if heavy and adhesive, add a liberal quantity of very old manure mixed with its bulk of sharp sand. The implements needed for the operation are a knife, a trowel and hooked wooden pegs. Choose a well ripened shoot of the same season's growth and strip off the leaves from its base a foot or more up the stalk; but, by all means suffer the leaves at the end to remain. Bend the shoot gently downward with the left hand and insert the edge of the knife in its upper or inner side six or eight inches from its base, and immediately below a bud. Cut half way through the stem, then turn the edge of the knife upward and cautiously slit the stem through the middle, to the length of an inch and a half, thus a tongue of wood with a bud at its end will be formed. With the thumb and finger of the left hand raise the upper part of the stem erect, at the same time by a slight twist

turning the tongue aside, steadyng the stem meanwhile with the right hand.—Thus the tongue will be brought to a right angle or nearly so with the part of the stem from which it was cut. Hold it in this position with the left hand, while with the trowel you make a slit in the soil just beneath it. Into this insert the tongue and bent part of the stem to a depth not much exceeding two inches. Press the earth firmly round them and pin them down with one of the hooked pegs. Some operators cut the tongue on the lower or outer side of the stem; but this has a double disadvantage. In the first place, the stem is much more liable to break in being bent, and in the next place, the tongue is liable to reunite with the cut part and thus defeat the operation. When all is finished, the extremity of the shoot should stand out of the ground as nearly upright as possible, and should by no means be cut back, a mistaken practice in use with some gardeners.

In a favorable season most of the layers will be well rooted before the frost sets in. If the weather is very dry there will be many failures. Instead of roots a hard cellular substance will form in a ball around the tongue. In the dry summer of 1864, the rose-layers were thus "clubbed" with lumps often as large as a hen's egg, but cases like this are rare.

In November, it is better in our severe climate to take up the rooted layers and keep them during winter in a "cold frame," that is a frame constructed like that of a hot-bed without the heat. Here they should be set closely in light soil to the depth of at least six inches and covered with boards and matting, or they may be potted in small pots and placed in a frame or cellar.

Layers may be made in spring from wood of the last season's growth; but laying the young wood during summer, as described above, is much to be preferred.

THE BIG TREE OF MONMOUTH.

BY G. P. DISOSWAY.

HERE I am, ruralizing for a short time in this rich region of New Jersey, unsurpassed for its cultivation and fertility. No one knows what a beautiful world he lives in, unless at this summer moment, he leaves our great city, with its noise, atmosphere, confined streets, and narrow lanes, for the country which God made. Man built the former.

Well does an old author say, "Who can ever fully express the pleasures of a country life? with the various delights of fishing, hunting, and fowling, with guns, grey-bounds, spaniels, and several sorts of nets. What refreshment it is to behold the green shades, the beauty and majesty of the tall and ancient groves; to be skilled in the planting and training of orchards, flowers and potherbs, to temper and allay these harmless employments, with some innocent and merry song, to ascend sometimes to the fresh and healthful hills; to descend into the bosom of the valleys, and the fragrant dewy meadows; to hear the music of the birds, the murmur of the bees, the falling of the springs, and the pleasant discourses of the old ploughman, these are the blessings which only a countryman is ordained to, and are in vain wished for by the denizens of smoking cities; they are, indeed, the sights and sounds that give delight, but hurt not."

The whole face of the country now wears a most lovely appearance, the corn, here most abundant, exhibiting its ripening ears, the meadows are mowed and cleared off, and, in many fields, the clover still stands in all its luxuriance of red flowers. During this month the "green-robed senators of the mighty woods," as the old trees have been fitly called, are clothed in all the beauty of their summer array, and those who wish to know what the gloom and silence of a full-leaved forest is, should penetrate its shades now, when the whole scene

is shadowed with the deepest summer verdure. There they will see the graceful forms in which the dark masses of foliage hang, with the beautiful effects of light and shade among the branches. The pale gold of the woodbine, the trailing blossoms of the bramble, mingling with the drooping crimson of the foxglove, throw their fine masses of color over the green underwood; and at times you will hear the lowing of the cattle amid the deep shades, or the jingling of the sheep-bells, farther-off sounds that come like cheerful voices amid the solitude and silence of the forest. In such a spot no sensible, thinking man or woman need pine for any other companionship, for a sympathy with all that is gentle or beautiful in NATURE betokens a contented mind.

The forests, from time immemorial, have been the theme of praise and song, and to this day the "sylvan solitude" possesses the magic spell of romance. And what can be compared to the forest—Natures own sanctuary? The noble columns rising boldly upwards unite together their airy arches, and the passing wind, like a distant hymn, murmurs in the silence. From the moss and flowers is shed a balmy freshness, while dew-drops, leaves, and sunbeams quiver through the branches, conducting the mind into the realm of wonders. Such is the summer forest—the silent retreat of solitary thought.

But here, each single tree is also a shape full of life and meaning. The rose bush beside the cottage, the willow near the fountain, or hanging mournfully over the hillock above the silent grave, do not these give such spots their peculiar charm and consecrate their history? Thus delineated the trees have a marked character, no longer the body which a botanist merely dissects, or a mere study in natural history, but a contemplation, leading and engaging the mind and the affections.

As the most perfectly developed animals have some decidedly marked type—a real *personality* of their own—just so, to a certain extent, may it be remarked of the greatest number of trees. Each one may be characterized by some peculiarity—it has life. Very different is the aspect of the oak on the mountain from the oak in the valley; or the birch beside the dashing torrent and the calm lake. A clump of trees, or a tree standing alone, or associated with others, all present a scale of the most varied moods.

I have indulged in these associations and reflections from a visit to the remains of the old tree of Monmouth, New Jersey. It stood upon the fine farm of the Rev. G. C. Schanck (Marlboro'). The dominie I found to be a good naturalist, with a cabinet, and fond of this delightful study, as every good man should be. From him I learned the particulars of this forest monarch, and hence they are authentic. It grew near his residence, and this *tulip tree* was surpassed in size by only one tree this side of the Rocky Mountains, and that was the *Elm* recently growing by the bank of the Genesee River, upon the late General Wadsworth's lands. It was said to have measured thirteen feet in diameter. The Monmouth tree stood upon the most elevated part of an open field unsheltered since the original forests were cleared away, probably more than 150 years ago. For a very long time it remained alone in its majestic strength and glory. The older inhabitants assert that formerly a similar one grew near it, but, struck by lightning, died.

A few years ago, this gigantic tree exhibited a vigorous growth with its large tulip-shaped flowers and green foliage. The trunk, the limbs, and top were all of proportionate size, so as greatly to deceive the eye in regard to its real magnitude, until a near approach discovered its immense dimensions. It was cut down in April last, the trunk perfectly round and straight, and near the ground, much enlarged; its roots occupied a space of 52 feet in circumference, or a diameter of 17 feet 4 inches. Above,

it slightly and gradually tapered to the limbs, measuring 28 feet from the lowest. At one foot above the earth its circumference was 34 feet 5 inches; three feet, 27 feet 4 inches; at six, 22 feet 19 inches; at eighteen, it was 20 feet around, averaging 32 feet in height, the tree divided into five branches, the larger measuring respectively 10, 12, 13, and 15 feet 9 inches in circumference. One of them extended 60 feet from the trunk and with the opposite branch made the distance of 106 feet. In another direction, the top measured 86 feet across. Its whole height reached about 110 feet.

The bark around the lower part of the trunk, or as far up as visitors could well reach, has been abraded, and marked with their initials or names, as they wished thus to hand them down to posterity. Above, the bark remained in its natural state rising in furrowed or convexated ridges, some four inches deep, and covered with thin, flat lichens, presented the appearance of having braved and stood the rains and storms of past centuries. Since cut down, the age of this great tree is ascertained to have been about 225 years. The central part of the trunk for about three feet in diameter was found to be decayed, but the rest perfectly sound. Its stump measured eleven feet through, and it required the work of one man for seven days to cut down this remarkable king of the forest, and the chips filled five wagon loads. An entire section of a foot in thickness, sawed from the bottom of the tree, was conveyed on a two-horse team to the college of New Brunswick, for its cabinet; but, like the Vicar of Wakefield's picture, when it reached the destination, the door was not high enough to admit the new comer. Wonderful tree! What reverend histories hover about it! for it has outlived generations of the red and the white man. Here it grew, when Hudson, in the year 1609, first anchored the *Half Moon* within Sandy Hook, not many miles distant, and here it flourished quite near by, during the bloody and patriotic

contest at Monmouth more than three-quarters of a century since. These gigantic fallen limbs and trunk now lying prostrate before me, seemed clothed in impressive thought. Even now some artist should portray its grand ruins before they are gone. This last monarch of the mountain and plain has been a giant hero, equipped and rejoicing to fight the battle of the clouds with the wild winds of heaven. But below, the ivy and honey suckle have climbed

up and twined around its stem, whilst the blackbird and robin caroled fresh songs among its lofty branches. Long did it stand proud and green, and there was none like it, by which the reflective fancy could count so far back, the boundary marks of our history, but the ax, which in this day is wielded against all that is planted by nature, has not been withheld, and the old tulip of Monmouth has also fallen to rise no more!

Monmouth, N. J., Aug., 1865.

THE NEW ERA IN GRAPE CULTURE.—No. 3.

BY GEORGE HUSMANN, HERMANN, MO.

SUMMER PRUNING AND TRAINING.

THIS is one of the nicest operations in the vineyard, and one to which the old adage can be safely applied: "A stitch in time saves nine." Let us see; here extreme neatness and thorough work can be combined, with a great saving of labor.

This, your readers may think, is hard to do. Let me try to convince them of the contrary. Let us suppose the vine properly pruned in the fall, as it ought to be, and nicely distributed and tied to the trellis, as it should be early in spring. Let us further imagine the young fruit bearing shoots along the cane to have grown, say six inches; they will then show the young bunches or buttons, as some call them, from two to three on each branch; we will suppose the time to be two weeks before blossoming.

Now, reader, if you wish to reduce this to practice, follow me to the vineyard, to this five years old Concord vine; it has three principal arms distributed over, say eight feet of trellis, with numerous spurs on each. On each arm select one of the lustiest growing shoots, about two to three feet from the ground, which tie neatly to the trellis, and allow it to grow unchecked.

Take away all the shoots which show no fruit, rubbing them off clean, for we want

no wasting of energy in surplus wood. All shoots which show fruit pinch off just above the last bunch of grapes, which you can easily do at this early time, with finger and thumb. In this way go over your whole vineyard, and my word for it, you will see the young bunches develop as fast again, than if you waited until after the bloom, as the old fogies do. Besides, bear in mind, the leaves are the lungs of the plants.

Pinching the shoots at so early a date, does not rob the plant of so many fully developed leaves as the old method; it enables you to look over your vine much easier, as the leaves do not obstruct the view; they are not tangled and interwoven with tendrils, and such pinching is only a gentle checking of the sap, leading it into the young bunch and the remaining leaves. If all the shoots are not developed enough, leave the small ones until you have gone over your ground, and in a few days go over them again, pinching the remaining ones. Do not allow more than one shoot out of each bud, as three large, well developed bunches are better than five small ones. Take off all the side shoots. After a week or so the laterals will have pushed on your fruit bearing branches. Go over them again, pinching all of them back to one leaf.

This will leave a young leaf opposite to each bunch of grapes, which will now develop rapidly, and serve as a conductor of sap to the young bunch. Leave the laterals on the cane you have selected for next year's bearing, to grow unchecked, and as soon as the young cane reaches the top of your five foot trellis, pinch it off there, to force the laterals into stronger growth, for we want them for spurs to grow our fruit on next year. Keep them tied away from the fruit bearing arms, so as to allow them all the ventilation and circulation of air they can get, for this is all important to raise fine fruit. It should grow and ripen *in the shade*, but well ventilated, and the young leaves on its own laterals will shade it sufficiently.

In about a week more the laterals on the fruit bearing branches will have pushed a second time. Go through again, pinching back the young growth to one leaf, and your summer pruning is *done*, at a time when your old foggy vine dresser will just commence; will pull out his knife and cut back the already hardening wood to two leaves beyond the last bunch of grapes, when the branches are all interlaced with thin tendrils, and he will have to tear and slash the poor vine half to death, divesting

it of over one half its leaves, and spending more time than you did in all your pinching. If, after this maltreatment, laterals should have the audacity to show themselves, he will tear them out by the root, often also taking the main leaf with it. And what is the consequence? His vines, after such treatment, will sicken, the leaves he has left will drop off prematurely, and the fruit ripen irregularly with a skin like leather, while yours, if treated as before indicated, will have plenty of air, plenty of young vigorous foliage to shade the fruit, and will ripen with such a bloom on them, and so thin a skin, you would not think they were the same variety. Try both methods and report progress. I think you will follow my plan entirely the following summer.

This has been one of the most trying seasons for the grape we have ever had, and only the most hardy and healthy varieties have been able to pass through the ordeal. The vintage is now commencing, and in a month or two I will report in full on some seventy varieties I have in bearing. Suffice it to say, that Norton's Virginia, Concord and Hartford Prolific have a heavy crop, and the Catawba is almost a failure.

NAOMI RASPBERRY,

BY F. R. ELLIOT, CLEVELAND, OHIO.

HEREWITH I send you a drawing of Naomi Raspberry, a variety that originated some years since in this county, but has never been disseminated; but I learn from Charles Carpenter, Esq., of Kelly's Island, who, with the Messrs. McIntosh & Sons, of Cleveland, have most of the plants, that it will be for sale the coming fall or spring. The Naomi is probably a seedling from the Franconia, is quite hardy, requiring no protection in winter.

Canes, strong with numerous lateral branches when fruiting. *Wood*, brown,

smooth, with occasional inconspicuous spines. *Leaves*, generally broad; lanceolate on the fruit branches about three by two and one half inches—very productive. *Fruit*, very large; roundish, slightly conical, or obtuse conical, hairs long. *Color*, bright rich red. *Flesh* firm and sprightly; a little acid until fully ripe, when it is rich and delicious: bears carriage well, even if left until fully ripe.

My drawing is from an average cluster, and designed to show the fruit in all stages of its growth.



NAOMI RASPBERRY.

FOOTE'S EARLY ORLEANS PLUM.

BY CHARLES DOWNING, NEWBURGH, N. Y.

THROUGH the kindness of the Hon. Ashael Foote of Williamston, Mass., I have received specimens of a new seedling plum raised by himself, from seed of Wilmot's Early Orleans, and although not so rich and luscious as some of the later varieties, it is of very good quality, and taking into consideration its other good qualities, earliness, hardiness, productiveness and freedom from

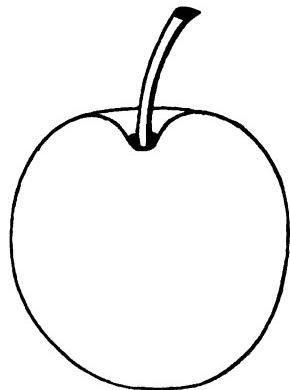
very black, covered with a blue bloom; stalk of medium length inserted in a large deep cavity; flesh greenish; moderately juicy, with a sweet rich pleasant flavor; quality "very good;" adheres to the pit which is oval and thin. Young wood, slightly downy, greyish. Tree, hardy, vigorous, spreading, very productive.

I give you Mr. Foote's letter dated July 31st:—

"The tree (which is from a pit of Wilmot's Early Orleans, was planted in the fall of 1851,) is now making its thirteenth annual growth, and by actual measurement is twenty feet high, with a spread of fifteen feet, and as a tree is a perfect model of symmetry and healthful luxuriance. It is also perfectly hardy, having never in this severe climate lost an inch of wood by frost, notwithstanding its vigorous growth.

It is now laden with its third successive crop of fruit, which has been on my table in perfection for at least a full week. Its product in 1864 was upwards of three bushels, all fair and perfect, whilst Imperial Yellow and Green Gages in the same garden were badly affected with rot. I suppose that at Newburgh this fruit would have been fully ripe by the 15th of July."

ASHAEL FOOTE.



rot, it will no doubt prove a valuable acquisition to fruit growers, especially for early marketing. Description—size medium, as above, roundish, inclining to oval—without suture; a mere dot at apex; slightly flattened at base and apex; skin

NOTES ON THE AUGUST NUMBER.

PRUNING THE PEAR TREE.—It is always easier to criticise than create—but in grafting in a branch to supply any vacancy on dwarf Pear Trees, I have found side grafting in early spring to prove successful. I practice going over my trees early in April, and when a branch is wanted to fill up, I cut my graft from the tree and proceed to insert it where wanted by making a downward cut on the body of the tree, through

the bark, wedge-shaped at the lower end, with two buds to grow, and insert it into the cut in body of tree; tie with bass matting and cover with a little wet stiff clay. After the graft has grown two or three inches, the bass string should be cut apart. Laying in a branch as directed by Du Breuil, is attended with nearly double the labor, and I have not found it any more successful. Every pear tree grower should learn to prune his own trees—it is almost,

if not quite, impossible to hire labor attended with a knowledge of vegetable physiology, and without that he who attempts pruning pear trees will, in nine cases out of ten, do more injury than good.

A PIG AND A COW.—Good advice where one has a fancy for pigs, but I confess I have no such fancy, and so far as a pecuniary gain my experience has been against rather than for the pig. For some years I kept pigs, feeding on weeds, sour milk, slops, etc., until the time of sweet apples, then fattening on apples, and ripening off with corn, but I found the money paid for my pigs, and the value of my apples and corn, at twenty-five cents a bushel, amounted to more than my pork would sell for when taken to market. I now practice a compost heap of my weeds moistened with slops, using occasionally a sprinkling of salt, and plaster paris (gypsum). I prefer it to the pig practice.

The cow is indispensable to comfort in the country, and all here said is but a tithe of what might be advanced in her favor. Aside from daily usefulness there is additional beauty added to every scene by some addition of active life in the landscape.

WATER PLANTS.—Educate—educate, and so elevate and cultivate the mind that all of nature's creation may be understood and appreciated. Few of our water plants as yet are known to even those who claim to be amateurs, and still less to the masses of the people, *Nymphaea odorata*, *Nelumbium luteum*, and *Nuphar advena* are about all that are ever noticed or even known by name. Go on Mr. Rand and help to educate us both in the knowledge of the plants as well as the simple and easy way of growing them, for, believe me, nothing will be grown to any extent for its beauty alone, without it can be done at little trouble and expense.

WINE MAKING IN NEW MEXICO.—All and every information relative to grape growing and wine making is especially valuable to our people at this time, and we

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are much indebted to Mr. Knapp for this account.

FERNS, No. 2.—I have heretofore said my say on this subject.

NOTES BY T. T. S.—Practical experience thus related is always valuable. It is plain that the more and longer we cultivate, the higher and more artificial our systems, the more of insect life have we to contend with. In this relation of the Plum Trees is it the alkalies in the ashes that give extra vigor and health to the trees or—what? Some of our friends where this black knot has prevailed so long and so extensively, should give us an answer.

GRAPE CUTTINGS FROM HISTORY.—Will Mr. Reid oblige by telling us how old his Catawba vines are, what the soil in which they grow, and whether the mildew affected the leaf or fruits, or both, and if so, at what period?

PLEASURE GROUNDS.—A good article, and the "sound advice" given is in one sense correct, but if the "genius" of one's immediate locality is without travel and study, better, before planting or cutting away of tree or shrub, send a distance and obtain the services of a man who has made the beautifying of nature his study and practice. I have in mind as I write a Landscape Gardener, so called, whose designs, one and all, embraced the same general features. It mattered not to him what the extent of the grounds, or the style of the house, he had a mass of trees and shrubs for the sides of the lot and a lawn in the centre. Again, as illustrative:—A gentleman employed an artist to mix colors to paint a cottage house, giving the body of the house and trimming, of course, different shades. This was, of course, as required, and so pleasing to all that in less than six months nearly every house, no matter what its architectural character, in the village was painted as near the copy as country painters were capable of mixing colors.

THE NEW ERA IN GRAPE CULTURE.—Mr. Husmann here gives us a statement, show

ing that grape growing, provided we have the right soil, can be as successfully done by the poor man as by the rich. But there is one point I must take exception to in Mr. Husmann's article, and that is the putting into account the product, or moneys received from sale of plants, as part of the vineyard. That should be counted aside, for while we know that Catawba, Concord and other roots have, the past year, brought good prices, such cannot long continue, even new varieties that last year sold at \$60 to \$80 per hundred plants, are offered at from \$10 to \$15. Let us have the vineyard by itself and the nursery by itself, and then we will show that grape growing, on suitable soil, and in selected locations is one of the best and most profitable of occupations.

MORE NEGLECTED FLOWERS.—This is right, give us more taste to cultivate the naturally beautiful plants of our own coun-

try, by showing our attention to them from time to time, so may we learn to appreciate home products as well as foreign importations.

ACTION OF METALLIC SALTS, &c.—An interesting record, and as a matter of science we should like to see it continued, but would suggest that experiments should be made with plants, whose growing seasons were nearer akin than the present ones of Strawberry and Cauliflower—as that may have something to do with the matter. Again, we would like the experimenter to grow at same time separate plants, in pots, in same position of exposure, watering only with rain-water. I may be skeptical, but I do not consider, in matters of horticulture or agriculture, that any one experiment with one exposure is of much value.

REUBEN.

HYBRIDS AND CROSS-FERTILIZATION.

BY J. M. MERRICK, JR., WALPOLE, MASS.

In an article upon Open Air Grape Culture, published in the *North American Review* for April, 1865, I made the following remarks about Rogers' Hybrid grapes, which I repeat here, because the genuineness of these so-called hybrids has been called in question, both before and after my paper was published:

"Mr. Rogers has given to the world no less than forty new grapes of different degrees of excellence; hybrids between several foreign kinds and a monstrous and un-eatable variety of the *Vitis Labrusca* from the Salem woods. Some of the new comers have already taken their place in the small list of standard out-door varieties, and three or four of them, for healthy growth and excellence of flavor are almost unsurpassed. Some writers, indeed, maintain that they are *not* genuine hybrids, but simply seedlings of the native grape; but this notion is wholly untenable, and a

glance at the following considerations will show in part the weight of the evidence that goes to prove them to be true hybrids:

If forty seeds of the wild grape be planted and as many seedlings obtained, one half of these seedlings will probably be barren; and of the other half nine-tenths will show no marked superiority to their parent. If forty fertile plants should be raised, all better than the parent vine, it would be little short of a miracle. Mr. Rogers has raised forty-four vines without getting one staminate plant, and the poorest among them is better than the average of fertile seedlings from the wild grape,—a result to be explained only by admitting a large infusion of the *Vitis Vinifera* in their composition.

Hybrids from two species which are very difficult to cross are usually very sterile, but these are not only genuine hybrids, they are also very fertile; and we have ob-

served in some experiments we are making, further to unfold their character, that the seeds from these hybrids, and especially from the number 19, germinate readily, and with much more certainty than the seed from the wild grape."

Mr. E. W. Bull, of Concord, in the last volume of the Massachusetts Agricultural Reports; Mr. Fuller, in his Grape Culturist, and various other well qualified people, have pronounced these grapes simple seedlings from the native.

Whether Mr. Rogers' vines are hybrids or not, makes very little difference to purchasers, provided the grapes are good growers, healthy and desirable; but, as a scientific question it is of the utmost possible interest. I cannot admit that they are not hybrids until some one will point out the flaw in my argument above quoted.

In support of the theory that they are hybrids, we have,

1st—Mr. Rogers' own statement of his experiments in the *HORTICULTURIST* for 1858, in which the details of the hybridizing process are given, and which show that the experimenter took all resonable measures and precautions to have the pollen of the foreign kinds fertilize the native variety.

2d—The general character of the vines themselves, their peculiar foliage and manner of growth, and especially the striking and distinct shape of the buds of some numbers, and the appearance of the wood between the joints, which to many observers, ignorant of the names or pretensions of the vines, at once suggest a foreign grape.

3d—The character of the fruit.

It seems to me it does not require a very nice taste to find a flavor in these grapes distinct from the native, and they are certainly beyond all comparison, better than the average, or it might be said, better than the best seedling fruit from the wild vine in the first generation. I may add, that I have this day, September 3d, picked berries of the number 15, tolerably ripe and sweet, from a trellis where the Conards were not quite ripe, and the Dela-

wares only a trifle more mature than the Conards.

4th—The great difference presented by the leaves of seedling vines which I have raised from number 19, considered by some the best of the series, goes a great way, in my opinion, towards showing that the parent of these seedlings was of a mixed origin.

Some of the leaves have all the marks of the pure native, (*Labrusca*) while others are of a delicate light green, pale underneath, without down, sharply serrated, and very foreign in aspect.

I know that no very sound theory can be built upon the looks of leaves alone without fruit, but I simply say that the leaves of my seedlings present greater difference of character than we should expect, in direct seedlings from a native vine.

The whole subject of hybridization and cross-fertilizing presents so many curious and apparently anomalous facts, that I permit myself to dwell a moment or two upon some of the most remarkable.

In the article in the *North American*, above alluded to, I remarked, "It is a curious, but admitted fact, that there are certain plants, as for instance some species of *Lobelia*, which can be far more easily fertilized by the pollen of another and distinct species than by their own pollen. Any one, says Darwin, can convince himself of the efficiency of insect agency, by examining the flowers of sterile *Rhododendrons* which produce no pollen, for he will find on their stigmas plenty of pollen from other plants." At the time the foregoing paragraphs were written, I had not read Darwin's later work, *On the Fertilization of Orchids*, a book containing detailed accounts of most patient and elaborate research, undertaken to throw some light upon a little understood class of plants, and which seem to prove, in the case of Orchids, that the various contrivances by which the ovules are impregnated, have for their main object the fertilization of each flower by the pollen of another flower. It is impossible to give the details of the researches,

but the learned author thinks he has proved that there are at least twenty-four genera of Orchids, which could never be fertilized were it not for insect agency.

Now if Orchids and Rhododendrons can be shown to need the help of insects for perfect and successful impregnation, this may also be the case in a less degree with the genus *Vitis*, and then the great divergence of different seedlings from the same parent would not be so surprising. If any one objects to this view, the fact that the flowers of a fertile vine seem most admirably adapted for self-fertilization, he should recollect that no flower in the world seems so well calculated to fertilize itself as that of an Orchid, and yet it is certain that Orchids need extraneous help.

A curious and anomalous case of transformation of sex, or of mistake with regard to the sex of a vine, has lately come within my observation, and is so exactly the counterpart of a case mentioned by Darwin, that I cannot do better than present both to my readers.

Mr. E. W. Bull showed me, a while ago, a barren seedling grape vine raised by himself, and permitted to remain among the bearing plants, in accordance with a notion borrowed from Chaptal, viz: that it is advantageous to allow a few staminate vines to remain in a vineyard of seedlings, as they help to fertilize the others. For several years this particular vine blossomed in the spring, the "false blossoms" dropped off, and it remained the rest of the season a useless incumbrance. At last, one year a bunch of blossoms on this staminate vine set and perfected four grapes! A single well authenticated case like this gives our notions about dioecious plants a very rude shock. Most persons to whom I have mentioned this curious fact, content themselves with denying it, but to do this is to impeach the accuracy of an experimenter no less skillful and no less quick-sighted than Van Mons himself. Now for the other side of the matter. Dr. Darwin, in his researches, came across one genus of Orchids

which wholly baffled all his attempts to fertilize it. It remained, as he says, the opprobrium of his work. He tried in various ways to effect impregnation without success, and was about to give up the matter as wholly inexplicable, when it occurred to him that although no instance of the separation of the two sexes was known in Orchids, yet that *Acropora* might be a male plant. A critical examination of the stigmatic surface, of the utriculi from the stigma, and of transverse slices of the ovarium, as compared with ovaria of other Orchids, all led to the inevitable conclusion that the *Acropora luteola* is a male plant. What, however, is very curious is, that no corresponding female form of this Orchid is yet known.

Here then are two cases, each the counterpart of the other; one in which a staminate plant bears fruit, another where a plant concerning whose sex no doubt had been entertained, proves to be exactly the reverse of what it was long supposed to be. These facts should teach us to be cautious in pronouncing definitely concerning a doubtful form.

Having laid down my belief (in the May number of this journal) that the perfect grape, when we should get it, would prove to be an artificial hybrid, it gives me particular pleasure to quote, in concluding this article, the closing paragraphs of Darwin's book.

"It is an astonishing fact that self-fertilization (in Orchids) should not have been habitual occurrence. It apparently demonstrates to us that there must be something injurious in the process."

Nature thus tells us in the most emphatic manner, that she abhors perpetual fertilization.

May we not infer as probable, in accordance with the belief of the vast majority of the breeders of our domestic products, that marriage between near relations is likewise in some way injurious—that an unknown great good is derived from the union of individuals which have been ~~kindred~~ distinct for many generations?"

DISAPPOINTED HOPES.

BY "GLADIOLUS."

MESSRS. EDITORS: On a beautiful Sunday morning in this first of the autumnal months, I was invited by a friend to take a drive out into the country, and visit the estate of a gentleman of wealth and taste living in the town of Orange, Essex County, New Jersey. *Albeit* it is not my wont to devote the Sabbath to pleasure excursions, or to secular occupation, yet believing that man may worship his God in the temple of nature, "not made by hands," and falling back upon the precept of our blessed Lord, that "the Sabbath was made for man, and not man for the Sabbath," I yielded to the temptation, and as the church bells were calling the people of God to the service of the sanctuary, I took my seat with two other friends (guests fresh from the land of Dixey), in the comfortable carriage of my friend, and drove out to the place of which I am now going to tell you. A short half hour carried us from the sound of church bells, and the heated abodes of city life to the rural retreat we visited; we entered by an unpretending approach, and on alighting from the carriage were met by a son of the proprietor who, with the useful manners of a true and cultivated country gentleman, escorted us to the mansion and welcomed us to the hospitalities of the house. Finding that we were on a newly made place of some eight years work, we were curious to inspect what art and labor, combined with taste and liberal expenditure, had achieved in the way of landscape gardening on an almost level piece of ground. The grounds, though of only some forty-five acres, had been so treated as to give the idea and appearance of very much greater expanse. Open lawns over gently undulating surfaces, and without a visible fence extended from the rear of the mansion over a long stretch, and were bounded by a piece of natural woodland in the distance, which furnished a very beautiful background, and which when nature puts

on her gorgeous fall livery must be amazingly fine. These lawns were divided by belts of ornamental planting which, without confusing the scene, gave great variety and heightened the general effect. There were magnificent high hedges of Arbor Vitæ admirably clipped and kept, which screened off the garden and whatever it was intended to shut out of sight, or prevent being all taken in at a glance. Passing around one of these hedges we entered the fruit garden, and our eyes were regaled with a sight of luscious fruits of all kinds and in profuse abundance. Melons of rare shape and size, masses of pears of many varieties, among which the Seckle, queen of all, was seen in highest glory; native grapes in abundance, and representing the best of the new varieties. All indicated a liberal and well-informed proprietor. These were shown by our host with evident pride and conscious excellence; but he led us at last, and with a premonition of sad words to a vineyard where his pride seemed to meet with a sudden and terrible reverse. "I take you in here" he said, "to show you a wreck!" and a wreck it surely was in every sense of the word. Picture to yourself, a fine structure got up in the best style, curvilinear roof, of some six years standing, and filled with noble old vines with stalks as thick as your arm, each well loaded with bunches, some of four or five pounds weight, just ripening, and the whole suddenly converted into a reeking mass of rottenness. Mildew—mildew—mildew—covering every leaf and every bunch; the ground underneath strewn with the filthy debris, and the whole house reeking with a nauseating, stifling atmosphere. "Well," we exclaimed, "this is cruel, perfectly cruel! enough to make a saint swear; 'tis the fault of your gardener, what has he been about—does he know anything of his business and duties, and if yea, why this abominable neglect?" Our own feeling was (being

somewhat of the pugnacious order) that if the viney was our property we would just like to deliberately, and in cold blood, place in position a small piece of field artillery and open fire on the house, and blaze away until we had reduced the whole concern into the smallest possible fragments—and we so expressed ourself. We anathematized the gardener and heaped invectives on his devoted head. Then we began to investigate the facts of the case, and here is the first of all the present rigmarole. We present the case for your consideration with some of our own philosophy. It appeared that the house in question was a hot-house, furnished with pipes and the usual hot-water arrangement. It never had been known to fail in its annual crop of fruit: always considered as a success; but during the last winter, the plants had been laid down to rest, raised in the spring and the house treated only as a cold viney. Everything went on well; a fine show of fruit, probably near a thousand pounds of grapes; and just as they were ripening this calamity overtook the house and overwhelmed everything in one big destruction. On hearing this statement we reconsidered our denunciation of the gardener, and began to reason on the subject, and look for causes beyond a gardener's neglect. The theory we elaborated was this:

1st. The house had always previously been a hot-house; the plants reared and cultivated year after year, on the forcing principle, under fire-heat: resulting from this a fixed habit in the plants as to their growth and fruiting.

2nd. This condition is suddenly interfered with: the fixed habit changed. The spring was cold and wet. The outside border being subjected to the cold rains and melting snows, and the plants inside missing the fire-heat had its effect upon the roots. The growing plants inside thus missing the fire-heat were rendered highly sensitive by the change to any morbid influence, and especially to the condition of the outside border. The shock was too violent, and consequently

3d. The plants were just in the condition favorable to the development of mildew which, when once began spread like wildfire, and the whole concern went up at once like the Southern Confederacy—one grand collapse.

Well, what do you think of our theory? We would add, *en passant*, that a second house to which a conservatory was attached shared the same fate, though not quite so bad. The little fruit that could be found to taste proved poor and insipid. We considered the case an interesting one, and thought that perhaps other gentlemen had met with just such wholesale disappointment. That a presentation of the case to you and your readers might call forth some valuable information, and with this intent we have indicted this letter descriptive of our Sunday drive. Hoping that our host whom we have left nameless may not look upon our report as impertinent or a breach of hospitality, and that it may be the means of calling forth some valuable contribution to the science of Horticulture from a source better informed than the writer.

STRAWBERRIES AGAIN.

THE increasing interest manifested throughout the country in this most interesting branch of horticulture, has induced me to avail myself, if agreeable to you, of the use of your columns, to reply to the numerous queries propounded to me about my manner of cultivating this most delicious fruit. First—

SOIL.

The soil is a clay loam, clay rather predominating, sufficiently stiff to *bake*, when not well manured and cultivated. Second—

TIME OF PLANTING.

My bed was planted in the spring, but I usually plant more in August and September than any other season. My custom is

to plant at either season when I get ready. If planted in August or September a fair crop may be expected the following season. Third—

DISTANCE APART.

I invariably plant in *rows* and *never* in *beds*. I hold that the objections to planting in *beds* are so great and so palpable, that it will admit of no discussion whatever. My standard rule is to plant in rows three feet apart, and plants two feet in the row. I have found this close enough for every convenience of picking, cultivation, manuring, &c. Fourth—

RUNNERS.

"What do you do with the runners?" is almost a universal enquiry. We treat them as *weeds*, unless wanted for the increase of stock. Cut them off as fast as they appear, by any convenient process your own judgment may dictate; a light, sharp steel spade, or a scuffing-hoe, I have found the most practicable and expeditious. Fifth—

MANURES.

I use no other but barnyard manure, *composted* nearly one year, with an occasional topdressing of dry wood ashes. The soil is limed before the bed is planted at all. The object of composting is to destroy the seeds of grass and weeds, the bane of strawberry culture. The value of composted manures, in my estimation, is simply beyond computation. Let any one try it once.

In first preparing the ground I aim to use an abundance of manure. My theory is that

plants that are expected to produce *fruit* must have something to *feed* upon. Sixth—

MULCHING.

I mulch in the Fall with clean straw, and leave it on through the Spring for the fruit to lie upon while ripening, to avoid the necessity of washing the fruit, only opening the mulch immediately about the crown of the plant. Seventh—

DURATION.

I prefer to have some new plantings coming in every season; but, by good management, I think, a bed may be continued in one place about three years. Eighth—

PRODUCT.

The total product of our bed, this season, was a fraction short of *five bushels* on the 37.50 part of an acre, making at the rate of 185 bushels to the acre. Ninth—

FLAVOR.

The "Albany Seedling" combines more good qualities in itself than any other one variety we know of. It has been pronounced by some as too acid. We have not found it so when properly ripened. Even that acid is pleasant and very healthy. Tenth—

GENERAL MANAGEMENT.

In conclusion, we would urge *clean* cultivation, principally by hoeing, and only plough or spade but once a year—viz., just after the crop of fruit is gathered.

W.M. DAY,

Morristown, N. J.

—*New York Observer.*

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. WOODWARD, 37 Park Row, New York.

BACK VOLUMES OF THE HORTICULTURIST.—We would be greatly obliged to our subscribers, having back volumes that they are willing to dispose of, to send us a list and the cash price. We are prepared to purchase single volumes, or whole or partial

sets. For the years 1854 and 1855, we have a small number of volumes. For 1856, we have 10 copies for sale, price \$2, bound and post paid. All other volumes, from 1846 to 1863, inclusive, we would like to buy.

It is not often in the history of any publication, that its proprietors are in the market buying up its back volumes for cash; volumes that have been read and consulted for years, thumbed, shelf worn and musty they may be; but such this time is the case. As years roll on, as the love of Horticulture and Rural Arts increase, so steadily and surely increases the demand for Horticultural Literature, both of the past and present.

The croakers and grumbler of past years are especially invited to send in their back volumes. Those who could never see any good thing in the "HORTICULTURIST," and were always prepared with a hundred or more suggestions, how it could be made better, &c., will be sorry to know that each and every volume has been, and is to-day, a full representative of its cost, and that each subscriber has received his moneys worth to read it, to keep it, or to sell it.

AGRICULTURAL Books.—We call the attention of our readers to our list of Agricultural, Horticultural and Architectural works, embracing all the late publications, with revised prices for the fall trade. We send these works by mail, post paid to all sections of the country, having postal communication. We put them up securely in strong wrappers, so as to carry safely. Our most distant readers can therefore get them in as good order and for the same price as if a personal call were made. In addition to the list published, we execute orders for the purchase of all classes of publications, and for Agricultural, Horticultural and Architectural supplies.

DIXON'S Low Down PHILADELPHIA GRATES for burning wood and hard and soft coal. The best and cleanest open fire place known. No house should be without one open fire. We can supply all sizes of these grates at manufacturer's prices. Samples can be seen at this office, send for a circular. Prices range from thirty-five to sixty dollars, according to size and finish.

AGRICULTURAL AND HORTICULTURAL PERIODICALS.—Any of our readers who wish to add to their list, any of the publications on Agriculture and Horticulture, can do so through us. Specimen copies can always be seen at this office, or mailed on receipt of price.

WOODWARD'S COUNTRY HOMES.—This is a book of 166 rather small, but beautifully printed pages. It tells us how to build houses cheaply, elegantly, and so as to tend to make us healthy, happy, and to live a long time! Such a book has long been needed, and is well worth having. It is not all talk and guesswork, but its statements are confirmed by ample illustrations, showing the reader how his home will look inside and out, when he gets it constructed. With such a book as this at his command—and many others as helps—a man is a fool—he is very foolish, at least—to go on and build from his very imperfect knowledge of such business, and will be very likely to incur large and unnecessary expenses, and not have the house he desires when it is done. Most persons look at house building as they do at farming. Every body knows how to build a house, or manage a farm. "Why, it comes by nature, just as reading and writing did to Mr. Dogberry!" So they go on, and not one house in fifty, when it is completed, is what the owner intended to have.—*N. England Farmer.*

FINE GRAPE VINES.—Last Spring we received from J. F. Deliot, Esq., of Sing Sing, an assortment of fine grape vines, mostly of the new varieties. They were the finest one year old plants that we ever saw, and do credit to the propagator. A season's growth has shown the great superiority of good vines over the miserable attenuated specimens too frequently met with.

HORTICULTURAL ASSOCIATION OF THE AMERICAN INSTITUTE.—The lecture of Tuesday evening, May 10, was by PETER HENDERSON of Jersey City, on "The Mar-

ket Gardens of New-Jersey," in substance as follows:

The market gardens of New-Jersey are embraced in a half circle of ten miles from the City Hall, New-York. The land occupied by them is about 1,000 acres, and it is questionable whether there is an equal area anywhere else in the country so thoroughly cultivated, or with such profitable results. In many cases the returns are \$1,500 per acre, and it is perfectly safe to say that the whole average is \$1,000 per acre. But this high degree of fertility is only obtained by the highest cultivation, and it takes about three years to break in farm lands and bring them up to this high standard. The varieties of vegetables cultivated are few in number, and mostly different from those of Long Island, whose lands embrace a much greater extent, but are not so highly cultivated. The vegetables grown are principally cauliflowers, cabbages, beets, spinach, onions and lettuce for a first crop, followed by celery, horse-radish, thyme, sage and other herbs for a second crop, for to produce the above results the soil must be kept at work, and as soon as the Spring crops are off in July, the plow and harrow again invade mother earth, and she is planted with the Fall crop. The particular manner of cropping is something like this:

Cauliflowers, for instance, are planted out two feet between the rows and fifteen inches between the plants, setting lettuce between the rows, which is fit for market before the cauliflowers are large enough to be injured. The cauliflowers in turn are marketed the last of June or first week of July, when the ground is prepared and planted with celery in the following manner: After the soil has been well pulverized by plowing and harrowing, lines are struck out three feet apart, but no trenches are made as is usual in private gardens. The plants are set in these lines six inches apart, and the ground kept clean by the cultivator until September, when the plants are strong enough to allow the earth to be laid up against them by the plow, and the banking is completed with the spade. In

private gardens the plants are often set on a level surface one foot apart each way, the ground kept free from weeds until the celery so covers it as to smother or keep them down. In its struggle for light, the celery stalks shoot up in a convenient form for blanching. This process is best performed by lifting the plants and setting them out in a cool cellar in sand about the middle of November. They are packed pretty close and the sand sifted in nearly to the tops of the plants. Grown in this way a plot 20x20 feet will give 400 plants—an abundance for any family from November to May. The variety best suited for this market is known as the French or Incomparable Dwarf.

Another feature peculiar to the Jersey market gardeners is the forcing and forwarding of early vegetables by hot-beds and cold-frames, immense numbers of which are used, some growers having upward of 2,000 sashes, principally for the forwarding of lettuce and cucumbers in cold frames. This frame is very simple, being two boards 9 to 10 inches wide, fastened to end boards six feet long, on which 3x6 feet sash are placed to any desired extent. The lettuce plants are set in them in March, eight inches apart, or 50 plants per sash. By the middle of May the lettuce is fit for use. As soon as a few heads are cut, seeds of cucumbers are sown in their places. They come up quickly and take the place of the remaining lettuce as it is removed. By this method any occupant of a city lot could find a corner for a sash or two, and with little trouble, provide lettuce and cucumbers at a time when stale ones which have passed through half a dozen hands could not be purchased at less than \$1.50 per dozen.

Of the fruit market gardens in this section there is nothing to boast. There is not, to my knowledge, a single acre of strawberries, raspberries, blackberries or grapes properly cultivated in Hudson County. Growers have pertinaciously held on to the miserable small varieties of strawberries and raspberries of twenty years ago,

which has defeated the few attempts at growing these fruits. I have also yet to see the first earnest attempt at grape culture. It is notorious that New-York is most inadequately supplied with the finer varieties of small fruits. Even the little that is seen is sent from immense distances—some of the best from Knox of Pittsburgh, over 400 miles from New York. This deficiency in the finer sorts of small fruits should be remedied.—*Tribune.*

COMMON IVY.—Ivy is not a parasite as commonly supposed, but has its roots in the earth, and simply adheres to the trees or other props by which it is elevated into the air. If the thick stems, which may always be observed at the base, be cut through, it usually dies like any other plant. The diameter of these stems near the ground is often 10 or 12 inches, and many are often found standing side by side. The age attained by ivy is probably to be reckoned by centuries, for though often found trailing weakly upon the ground, bordering sylvan walks, and entangled in hedges, its true place is the time-worn and roofless abbey, and the crumbling middle-age castle, from the romance of which it is inseparable, and with the history of which it descends, making antiquity picturesque, and affording at the same moment a powerful physical protection. Some of the largest ivies in England are probably those at Brockley Hall, Somersetshire, where they brace up the old trees with their friendly clamps, rendering them at the same time, as is the wont of ivy, cheerful in winter; and for beauty there are none to be found grander than those of Kenilworth. The lower walls of this famous ruin they ornament with green and shining arabesque; and from the upper ones they roll out magnificently in rich and massive cornices. The variety in the leaves of ivy is often thought to indicate a difference of kind. But it is a variety connected merely with different stages of growth. While young, and as long as the stems have a wall or tree to attach themselves to, that is to say, closely, as if they

were glued, inch by inch, the leaves are angular and three to five-lobed in innumerable variety; at this time also they are often beautifully tinctured with red or purple, or veined with white, or wholly yellow, especially on the terminal and zig-zag branchlets that run like vegetable centipedes up trees and over the surface of damp walls and rocks. Mounting upwards by means of their root-like suckers, which are thrown out abundantly from the surface, the stems in due time reach the top of their support. They now elongate but little, becoming woody, and forming large bushy heads, which produce flowers and fruit, and the leaves of which are all ovate or elliptical, but still possessed of the characteristic polish, and with long petioles. Such leaves are produced only upon the branches that float into the air, when the plant is attached to trees or buildings; or that form a kind of edge along the top, when growing against an old wall; and it is only upon these, literally the very tops of the plants, that flowers and fruit are found. If the stem have suckers upon it, there are neither.—Examples are known of ivy ascending to the height of 100 feet before it becomes disengaged enough to blossom.—*Grindon's British and Garden Botany.*

PEDIGREE WHEAT.—The following article is extracted from Vol. IX of *Once a Week*: The results of Mr. Hallett's experiments are very wonderful and very suggestive. We have condensed the original account, in some measure, but without any suppression of essential facts.

"A gentleman, (Mr. Hallett) whose farm I very recently had the pleasure of seeing, in the immediate neighborhood of Brighton, showed me and my friends the results of his experiments in the growth of wheat and other cereals, and explained the reasons of his undertaking them.

With good, strong, plain sense, it struck Mr. Hallett, what every stock-breeder knows, that from the largest and best animals the best stock was produced.—With this idea in his head he felt convinced

that the principal might be applied to grain. As a stimulus to pursue his plan, he fortunately discovered that in the grains of one ear of wheat one grain is to be found greatly to excell all the others in productive power. Thus by carefully selecting the seeds from the best ear, (for there is always one best ear amongst the tillers, and as was remarked, one best grain in it,) the result has been a growth of wheat perfectly extraordinary. Year after year these best grains have been put into the ground.

Mr. Hallett's experiments and success are well illustrated by the following facts: A gardener in Scotland was struck with the appearance of a blossom on a Sweet-William in his garden. He carefully preserved the seeds from it, and the following year had a still better flower, the seeds from which he also preserved. In this way he went on, year after year, for fifteen years, when he produced flowers nearly as fine as auriculus. This was his *ne plus ultra*. Whether Mr. Hallett will improve on his present large ears and their yield remains to be seen.—We cannot but think his experiment will end where they now rest.

In the year 1857, the original ear was 4 $\frac{1}{2}$ inches long and produced 47 grains. In the year 1861, the finest ear was 8 $\frac{1}{2}$ inches long and produced 123 grains, and also 80 tillers from one grain only. Thus by means of repeated selections alone, the length of the ears had been doubled and their contents nearly trebled, and the tillering power of the seed increased eight fold.

When we consider that eighty ears have sprung from one seed, some of which have from 16 to 18 sets up each side of it, this new development is little short of miraculous, and the product has been accomplished in five years by selection alone, and that on land which is, apparently, but little adapted for the growth of wheat. And what a sight presented itself when we viewed Mr. Hallett's large wheat fields and his selections in his garden! We shall never forget it. We have admired the blue sky, the calm lake, the sunny glade, the budding blossoms, and

the beauteous flowers; we have wandered on the sides of purling brooks, and seen the foamy sea in all its glory; but never do we recollect being more struck with admiration, and even wonder, than when we beheld the fine crop of his cereals. We mention cereals, because we include his oats and barley, both of which exhibited not only an extraordinary growth, but an enormous yield, some of the stalks of oats being at least seven feet in height.

But to return to the crop of wheat. It waved its pendulous heads to the slight breeze that blew, each ear giving promise of great productiveness, and, as far as the eye could reach over the waving fields, each ear was of the same great unusual length. Nor was there any crowding of the plants. Ample room had been given for each, and the consequence was, that the tillers were in due proportion to the space given.—There was also a great saving in the quantity of seed wheat usually sown, and the one peck per acre, planted by Mr. Hallett, or one bushel on six acres, if sown in August, allowing nine inches every way for tillers. All this is a great consideration, as well as a great saving of seed. Indeed, dibbled in the way Mr. Hallett recommends, even to twelve inches apart, a half-peck of seeds has planted an acre of ground."

This principle of selection has been employed in this country, both in grains and vegetables and fruits, and doubtless very valuable results would be secured by patient and pains-taking experiments in all departments of horticulture.

SEPTENNIS PSORIASIS.—Sidney Smith was once looking through the hot-house of a lady who was proud of her flowers, and used, not very accurately, a profusion of botanical names.

"Madam," said he "have you the *Septen-nis psoriasis*?"

"No," said she, "I had it last winter, and I gave it to the Archbishop of Canterbury; it came out beautifully in the spring."

Septen-nis psoriasis is the medical name for the seven years' itch.

TERRE HAUTE HORTICULTURAL SOCIETY.

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Organized May, 1865.

WISCONSIN STATE HORTICULTURAL SO-

CIETY.—Annual Circular, 1865.—Officers:

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CORRESPONDENCE.

EDITORS HORTICULTURIST,

I HAVE been giving more or less of time this season to a specialty, viz., the examination of grape soils, location, and modes of culture, training, &c. I am not prepared, as yet, to say much *pro* or *con*; but perhaps a little record of what I have seen and heard this season may be of use to you in making up the pages of the HORTICULTURIST from time to time.

My observations at this time, taken in connection with previous years, convince me that while grapes of some variety may be grown in any soil, and almost any locality, there are really but few localities, and a small territory of soil suited to growing of grapes for making a fine wine. I do not think that, as a whole, the class of wines now made and sold will be tolerated ten years hence, and, therefore, the grower of grapes, looking to their manufacture into wines for profitable sale, must study well the quality of grape requisite, and the components in soil that will supply those requisites. My present impression of the value of soils for growing wine grapes is about as follows:

- 1st. Calcareous limestone.
- 2d. Calcareous clay.
- 3d. Limestone clay.
- 4th. Clay loam.
- 5th. Gravelly loam.
- 6th. Sandy loam.

The first and second will grow and ripen fruit containing a less per centage of acid than the third and fourth, while the fifth and sixth are soils in which I question the practicability of growing any grape, and

ripening it to form a wine without the addition of some foreign matter.

I know there are drift formations on some of the islands, and on the shores of Lake Erie, where the appearance is of a gravelly loam, and where the grape grows and apparently ripens well. I know, also, that it is believed by some that such drift formations contain within them materials to give all the requisites to good wine. I have yet to see the good wine, and, therefore, you may note that I leave out these localities in my estimate respecting gravelly loams. I wait to learn.

So much for soils. Now let me add that localities are best, as I now view the matter as follows: viz., 1st. Those abutting on large bodies of water, or where the prevailing cold winds of autumn and spring pass over the water, and within one mile of the vineyard.

2d. High hilly locations, where there are adjacent rivers or large ponds of water, and, as before, so placed that the cold winds of autumn and spring pass over the water and within half a-mile of the vineyard.

With the 1st or 2d class of soils, and either of the above locations—the land under-drained—profitable results may confidently be anticipated by the planter and grower of a vineyard, especially if bone meal and gypsum be added as a manure to the 2d class.

The territory abutting on the shores, and embraced in the Islands of Lake Erie, now devoted to grape culture, is probably over 5,000 acres. Of this 600 acres lay between Buffalo and Erie; 600 acres between Erie,

Pa., and Cuyahoga County in Ohio; 1,200 acres in Cuyahoga County; 200 acre in Lorraine County; 700 acres in Erie County, exclusive of the Islands; 800 acres on Kelly Island, and 400 acres on South Bass, Middle Bass Peninsula, and parts of Ottawa County. The balance, 500 acres, we may safely assert, is to be found west of the territory here specified.

Of these 5,000 acres, three-fifths are probably Catawba, two-fifths Isabella, and the remaining one-fifth made up of Delaware, Concord and other varieties. The distance apart in the largest proportion of the vineyards, I think, will be found six by eight feet; but nearly all recent plantings have been eight by eight and eight by ten feet. The crop this year will probably be on about 3,500 acres of the 5000, and will average, notwithstanding deductions to be made for rot and mildew, and the quantity of acres first year in bearing, say not far from two and one-half tons to the acre. This will give 17,500,000 lbs. which at an average price of seven cents per pound will be \$1,225,000 or \$350 per acre.

This is perhaps a low average, as there are quite a large number of acres on which from five to eight tons per acre will probably be gathered; but I prefer putting my estimates so that I can safely cover all the ground, as I then show a better return for capital invested than perhaps any other reliable and permanent interest will exhibit.

In connection with this, I want also to tell you that the Northern Ohio Grape Growers' Association will hold an exhibition of fruit, and meetings for discussion of qualities, at Sandusky on the 17th, 18th, and 19th of October; and that you, and all other Horticulturists, and especially grape-growers, are invited to attend.

Some other time, perhaps, I will write you my impressions relative to the times and modes of pruning, manner of cultivating, &c., &c.; but I think you have enough for the present. Yours truly,

F. R. ELLIOTT.

Cleveland, Aug. 27, 1865.

NEWBURGH, N. Y., Aug. 20th, 1865.

EDITORS HORTICULTURIST.

GENTLEMEN,—We have had the worst season heretofore known in this locality for "rot" and "mildew" of grape fruit and leaves. Broad Vineyards of Catawba rotted so badly as to show but few decent bunches, and to destroy three-fourths of the crop for any use. No other variety suffered such damage, and some kinds, and some soils produce an average crop.

The foliage of most of our newest sorts of "pot" grapes is more or less impaired; also, some mildew on their fruit occasionally.

Many persons took the bad advice "to trench two to three feet deep and enrich the border with well rotted manure before setting vines," and some carried the idea to the extreme of four or more feet with enriching to the bottom. Vines so planted have ever had mildew, and this season worse than ever; while some varieties of vines, grown in soil of moderate depth, not frequently stoned, have vines in good condition, and fine crops as ever before raised here, now ripening.

Very deep, rich soil, frequently forked over and soaking abundant drainage, ensures failure even with those best of grapes which require the richest borders of any hardy grapes grown here, viz: Allen's Hybrid and Delaware.

Adirondac, Allen's Hybrid, and Delaware vines have generally suffered the worst from mildew, because planters wishing to "pot" them have made extra preparation of soil, by deepening and enriching—hence the worst results.

Delaware Vineyards, three to five years, planted in proper soil, *not potted*, have, so far done finely, and the fruit is nearly ready for market. So Concord and Hartford on thin open soil, duly drained, have done as well as, or better than usual. Isabella, though generally injured by mildew on leaf, is promising fair. Rebecca, in suitable soil, very fine crop. Allen's Hybrid, properly planted, now have a splendid crop. Diana

never ripens here except on limestone debris, and rots badly in damp soil. Creveling is resisting disease very well and making good promises.

In short, bad as the season is, the right grape in the right soil, under right treatment is rewarding its owner well, while apples, pears, plums, peaches and cherries have failed almost entirely.

Yours, &c.,

SOUTH PASS, ILL., Aug. 21st, 1865.

EDITORS OF HORTICULTURIST.

Will you or some experienced cultivator give a list, say six varieties (or less, if there be not so many) valuable to cultivate for market, of peaches, pears, plums and grapes. By doing so you will oblige

A SUBSCRIBER.

Some of us are getting "Grapes on the brain" here.

Will some of our subscribers who have experience in the cultivation of fruit in the above locality, please send us a list of varieties best suited to their climate.—EDS.

OLNEY, ILL., Aug. 12, 1865.

THE Geranium is one of the most popular flowers, and it would no doubt gratify many of your readers to publish an article descriptive of its varieties, mode of culture, &c., and if possible suggest a good plan of keeping it over the winter without the necessity of a Green-house. Grapes are abundant here, although all varieties rot to some extent, except the Delaware. I have cultivated grapes for ten years, and of those growing on the side of my house I have never had any to rot or mildew. The iron scales, gathered from round a blacksmith's anvil, I have been in the habit of putting round my pear trees. I have never yet lost one by blight, and they bear abundantly.

Your's respectfully,

SAMUEL MCCLURE.

MESSRS. EDITORS:—

The remarks of your correspondent, "Harvard," upon my article in the August number of your journal, require an answer, which I will try to give without any of that pleasant "sarkasum," in which your correspondent seems to copy the great A. Ward. In regard to the *Corydalis glauca*, I admit that I made a serious blunder, but at the same time, I say that half the blame belongs to the accomplished chairman of the committee on flowers, who marked my specimens *C. Aurea*. In regard to the character of the other plants, and as to their being neglected, I simply affirm that I am very far indeed from being "singularly unfortunate in my choice of plants."

The *Corydalis*, *Arum* and *Houstonia* are mentioned in the transactions of the Massachusetts Horticultural Society for 1858, as being "sufficiently curious or showy to merit a place in every garden." My experience in cultivating wild flowers, and my good fortune in seeing them under cultivation, may be much more limited than that of "Harvard;" but never having seen the *Dracena*, *Corydalis*, *Arum*, or *Sarracenia* cultivated outside of my own garden, I had a good right to call these, so far as my own observation went, "neglected flowers."

On the same ground, i. e., my own experience, I repeat what I said in the article in question, viz: that the *Sarracenia* is impatient of removal. It has failed with me and with the only other cultivator whom I know to have tried it.

The *Calypso* was mentioned incidentally, more to call attention to it, and elicit some information if possible, than to class it strictly as a neglected flower.

It is a mere quibble to say that a plant is not neglected, (especially if it is a plant easily obtained,) because one amateur in five hundred happens to have a specimen in his garden.

My list of flowers was not made up

without some care, and apart from the mistake about *Corydalis glauca*, which now stands corrected, I cannot see that I have been careless, or done anything to mislead the readers of the *HORTICULTURIST*. Like Jack Bunsby, "What I says I stands to."

J. M. M., JR.

strength of the population of the United States,—by leading them to study critically the Entomological fauna which surrounds them, and to derive from their knowledge thus acquired, the power to increase the production of their crops and develop the interest which they represent.

BOOKS, &c., RECEIVED.

PIONEERS OF FRANCE IN THE NEW WORLD, by Francis Parkman, author of "History of the Conspiracy of Pontiac," "Prairie and Rocky Mountain Life," etc.—Boston, Little, Brown & Co., Publishers.

In this series of Historical events, of which this volume is the first, and at the same time a distinct and independent work, we have two completed narratives; the first relating to the Huguenots in Florida, with a sketch of Huguenot colonization in Brazil; the second to Samuel de Champlain and his associates, with a view of earlier French adventure in America and the legends of the Northern Coasts. The care and research bestowed on this volume ranks it at once as a standard Historical work. Evidently no pains have been spared in exhausting every resource of information, and placing the same in a truthful, concise and entertaining form. Mr. Parkman is known to our readers as the author of the valuable articles on Hybridization and the Culture of the Rose.

THE Publication Committee of the Entomological Society of Philadelphia, purpose to publish, and issue gratuitously, an occasional bulletin, under the title of "**THE PRACTICAL ENTOMOLOGIST**," in which papers on the Insects injurious and beneficial to Vegetation will be given for the benefit of the American Farming interest. It is hoped that the information intended to be imparted through this medium, will be of use to the Agriculturists of this country,—a class which comprises the wealth and

DOMESTIC POULTRY.—Being a practical treatise on the preferable breeds of farm yard poultry, their history and leading characteristics, with complete instructions for breeding and fattening, and preparing for exhibition at poultry shows, &c. Derived from the author's experience and observation, by Simon M. Saunders. Very fully illustrated. Orange Judd, New York. Price in paper cover 30 cts., bound 60 cts., post paid.

HOP CULTURE.—Practical details from the selection and preparation of the soil, and setting and cultivation of the plants; to picking, drying, pressing and marketing the crop. Plain directions as given by ten experienced cultivators, residing in the best hop growing sections in the United States. Over forty engravings.—Orange Judd, New York. Post paid, forty cents.

MANUAL OF FLAX CULTURE.—Seven prize essays on the culture of the crop and on dressing the fibre, with other essays and statements, copious illustrations, and a glossary, all by practical flax growers of various parts of the United States, Canada, Ireland and Germany.—Orange Judd, New York, post paid 50 cents.

B. K. BLISS' AUTUMN CATALOGUE of Dutch and Cape Flowering Bulbs, for sale by Benjamin K. Bliss, Springfield, Mass. Price of Catalogue 10 cents.

VICKS' ILLUSTRATED CATALOGUE of Hardy Flowering Bulbs, and Guide to the Flower Garden for the Autumn of 1865.

SELECT LIST OF DUTCH BULBOUS ROOTS,
imported and for sale by Henderson & Fleming, Seedsmen and Florists, 67 Nassau Street, New York.

PRICED CATALOGUE OF PLANTS, grown and for sale by E. Williams, Montclair, N.J.

Royce's PRICE-LIST OF GRAPE VINES for 1865, with an address to those interested in Grape Cultivation. Dr. W. A. Royce, Newburgh, N. Y.

CATALOGUE, No. 4—Genesee Valley Nurseries, Rochester, N.Y. Frost & Co's Wholesale Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, Bulbs, &c., for Autumn of 1865.

BRIDGEPORT NURSERY TRADE LIST OF VINES for Autumn, 1865 and Spring, 1866. John W. Hinks & Co., Bridgeport, Conn.

LAKE SIDE NURSERY, Madison, Wisconsin.—J. C. Plumb's Descriptive Price-List of select fruit, Evergreen and Deciduous Trees, Vines and Shrubs adapted to the North-west.

REID'S NURSERIES.—Catalogue for 1865 and '66 of Fruit and Ornamental Trees, Flowering Shrubs, etc., cultivated and for sale by David D. Buchanan, successor to the late Wm. Reid, Elizabeth, N. J.

VINELAND GRAPE NURSERY, Vineland, N.J.—J. W. Cone Proprietor. Price-List for fall of 1865.

KNOX'S FRUIT FARM AND NURSERIES.—J. Knox, Box 155, Pittsburgh, Penn. Price list of small fruits, &c. for the fall of 1865.

1865 & 1866—WHOLESALE CATALOGUE of J. M. Jordan's Nursery on Grand Ave., St. Louis, Mo.

"*Grape Cuttings from History*," and several other valuable articles, in type, will appear in the November number.

WHOLESALE PRICE-LIST for the Autumn of 1865 and Spring of 1866. Bronson, Graves & Selover, of the Washington Street Nurseries, Geneva, N. Y.

WHOLESALE PRICE-LIST of the West Avenue Nurseries for 1865-6. A. C. & G. T. Fish, Proprietors, Rochester, N. Y.

PRICE-LIST OF VINES for fall of 1865. Chas. H. Zundell, Hempstead, Queen's County, N. Y.

RYDER & CO'S ANNUAL CATALOGUE AND PRICE-LIST OF GRAPE VINES for 1865, Sing Sing, N. Y.

SELECT CATALOGUE of Fruit and Ornamental Trees, Vines, Shrubs, &c., cultivated and for sale at the Bridgeport Nursery, Fairfield Co., Conn., by J. W. Hinks & Co.

DESCRIPTIVE CATALOGUE of Fruit and Ornamental Trees, Shrubs, Vines, Roses and Exotic Plants, cultivated and for sale at the Commercial Garden and Nursery of Parsons & Co., Flushing, Long Island, near New York,

J. F. DELIOT, ANNUAL CATALOGUE AND PRICE-LIST of Grape Vines for 1865-6. Sing Sing, N. Y.

TRANSACTIONS of the Indiana State Horticultural Society at its Fourth Annual Meeting, held at Indianapolis, January 3d, 4th and 5th, 1865.

TWELFTH REPORT of the Ohio Pomological Society, embracing the annual meeting for 1864, held at Painesville in December 1864, and of the *ad interim* Committee at Cincinnati, Pittsburgh, etc., in 1864.

JOHN W. BAILEY'S Trade-list of Grape Vines for Autumn, 1865, Plattsburgh, N.Y.

FINE STRONG PLANTS,

AND CHOICE VARIETIES OF

NATIVE GRAPE VINES

For the coming season, of

IONA, ISRAELLA,

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DELAWARE,

DIANA, CONCORD,

HARTFORD PROLIFIC,

ALLEN'S HYBRID,

REBECCA, CREVELING,

and ROGER'S HYBRIDS,

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JOHN WOODWARD, Publishers, 27 Park Row, New York.

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THE
HORTICULTURIST.

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VILLAGE AND COUNTRY ROAD-SIDE.

EVERY christian dweller, in village or in country, owes a duty to his road-side; which, if he neglects, he relapses—horticulturally speaking—into heathenism. This duty is to maintain order and neatness; and he is no more relieved of this duty because the highway is assigned over to public convenience, than he is relieved of any other duty whose accomplishment must of necessity contribute to the public convenience and public education, as well as to his own. Because my front entry is shared, for all legitimate purposes, with my friends and chance callers, shall I therefore treat it with neglect and allow the dust and cob-webs to accumulate about it, while I ensconce myself churlishly in my well swept den? Yet, every visitor--unless he be a vagabond fruit stealer, or an equally vagabond bird-killer—comes up the road-way, and if you choose to put him through a course of scoria, and old tins, and taney tufts, and briary heaps of stones along your road-side, you might as benevolently and as prudently, (so far as the growing tastes

of your children are concerned), lead him up to your front door between piles of gaping clam shells. There is no rule of order, or of taste, or of benevolence, that belongs to a man's door-yard, that does not belong to his road-side.

It is true, there is a liability outside the fence to the incursions of road-menders, who are, for the most part, barbarians ; but there is no more reason for not covering or removing the odious traces of these brutes, than for not removing the disagreeable traces of others. An ugly yellow scar in the turf-y mound that supports, maybe, your garden wall, by due attention, and a shovel full, or two, of fresh mould, can be thoroughly obliterated; but if submitted to the swash of the rains, it gapes and throws off a great ooze of yellow mud, which, next spring time, tempts the foraging shovel of the road-menders again, and in a few years your whole road-side is a disorderly line of jagged earth-pits, with raw boulders clustering at the front of each. A little timely care, often repeated, may at last win upon

the regard of the barbarian followers of the scraper and hoe, and they may grow unwittingly into a respect for your love of order. Such miracles are subject of record. A safer alternative, however, if your road-side be no more extensive than that of my friend Lackland, is to supply yourself, an occasional defect in the road-bed from the screenings of the coal, or the raking of the garden, by which you may easily secure so even and compact a surface, as to escape the attention of the road viewers. If, on the other hand, the reach be long, an arrangement can sometimes be made with the select-men to keep its whole extent in perfect condition, for a sum which if it be small, will be remunerative in the exemption it gives.

I say sometimes such convention may be established by an order-loving individual, but not always. Your true old-style representative of a select-man always scents some party bargain, or sly scheme in such a proposition—most of all if the proposals run below current rates. Indeed, if it were desirable for prudential reasons to keep the world from revolving as it does, I think the matter (if feasible) could be most safely entrusted to the "select-men" of a country town. I do not know any better types of old fogymen than the average of black-coated select-men, who will meet ten evenings to discuss a nine-penny bridge, and spend six months of consideration upon the opening of six rods of new highway. If the Pacific Railway is ever completed, (as I hope it may be) I would suggest that a committee of "select-men" from our country towns, (with a change of linen and the last week's paper) be put through on the first car,—in the hope of opening their eyes to at least one current fact of the age. I am sometimes tortured with the notion that after twenty years of spectacled observation, (I do not yet wear spectacles) and after twenty years of voting the "rig'lar" ticket, I may become a candidate for the office of select-man. The thought oppresses me like a night-mare.

To return to road-side,—I know nothing which contributes more to that air of thrift, which should belong to every country town-ship, than neat and orderly road-sides: and when I say neat and orderly, I do not mean any finical arrangement of turf, or clipping of the road track, but only such judicious combing-down of unsightly roughnesses, such watchfulness against encumbrance, such adaptation of existing shade trees, or such planting of others, as shall show that the adjoining proprietor does not limit his charities by his own walls, or his eye for neatness by the line of highway.

Once upon a time, when the writer was in search of a country homestead, he remembers deciding against certain "highly recommended" places, because the high road to them led through a considerable array of suburban houses, whose occupants made it a religious duty to throw all their offal in the public street, and to cumber the same locality with their hoop-poles, or their wood-piles, or their shoe-parings. It is so hard to unlearn such a noisome depravity of taste! Many of the small towns on the banks of the Hudson, (near to New York) and in New Jersey, offer an extended exhibition of this sort of local economy and fragrant treasures. And I have sometimes thought that New York citizens, by reason of the offal in their streets, become quite agreeably wonted to such disposition of cast-away bones and filth, and scent it, upon their drives to their country homes, with an appetizing relish. But in the name of all true rural delight, I beg to enter protest, and to urge every man who has his home-stead under green trees, to use what influence may lie in him (albeit he is not select-man) to abate the nuisance, and to make our village and country road-sides smack of order and thrift and cleanliness. Good example will do very much in way of reform—more, in most instances, than any zeal of preaching. If you approach an old school neighbor, who has inherited the propensity to cumber the highway before his door with all conceivable odds and ends, with any

suggestions for a change on the score of neatness or good looks, you will find him, very likely, fortified with his own "idees" on that subject -- "idees," which, like the independent American citizen that he is, he is in no mood to relinquish.

"He can't git a livin by looks," and with such speech shrewdly uttered, and emphasized with a rattling horse-laugh, he floors your blandest suggestions. Yet a wholesome attention to neatness on your own score, which shall creep up to the edge of his enclosures, and work by contrast, will, in time operate insensibly upon him.—There is something after all "very catching" in good order.

But most of all, co-operation of all the town's people disposed to neatness is to be relied upon. Every country place of any size should have its "village-improvement society," to look after the planting of shade trees, the proper condition of highways, the arrest of stray cattle, and to discuss and carry into execution whatever may promote the thrifit and attractive appearance of the place,—whether in the way of new streets, laying down of side-walks, or removal of offensive debris or noxious weeds. And if such a club could have their little room for occasional meeting, and stock it with a few valuable horticultural and agricultural books and papers, so much the better. An entirely new air might be given to very many of our slatternly country villages in a few years, by the energetic operations of such a club, and the value and attractiveness of property be correspondingly increased.

Most of the North-eastern states have, within a few years, by legislative enactment, outlawed all strolling cattle. This is well, and relieves from a great nuisance. But in not a few broad-streeted towns there has sprung up in consequence, a rank growth of weeds, (formerly kept down by grazing cows), which, as it seems no individual's concern, are allowed to ripen their seeds, thus multiplying next year's labor in the fields, beside offering a terribly

straggling appearance. In fault of such co-operation club as I have hinted at, (which should order them cut at common expense) every man should see to his own frontage. If such nursery beds had not been tolerated, we should long ago, I think, have scotched the Canada thistle, if not that detestable weed, the wild carrot.

At a considerable remove from towns, we frequently come upon some quiet streak of country road, charmingly bordered with a wild sylvan tangle of hickories, sumacs, brambles, cedars, and all festooned perhaps with the tendrils of the wild grape, or the bittersweet. Neither economy or good taste command the removal of these, even when bordering cultivated fields, except (which rarely occurs) they harbor bad weeds to spread within the enclosure. Nay, in nine cases in ten they furnish a grateful shelter from the winds,—a matter too little appreciated as yet, either by fruit growers or grain growers. And on the score of taste, no more charming contrast can be devised than that of such wild profusion of growth, with the neat and orderly array of crops beyond. I can recall no more delightful rural scenes in England, than certain ones in Devonshire, where, after strolling along some admirable bit of Macadam, with high hedge rows on either side, sprinkled with primroses, and tasseled with nodding ferns, and wild with jangled thickets of bramble, I have, with a leap, broken through and seen beyond,—so near the road I could have tossed my hat into the field,—such trim lines of emerald wheat,—without ever a weed or a crook,—as made the heart rejoice.

The high hedge rows are indeed now being cut down throughout the best cultivated districts, but only for the economy of land, the surface occupied being needed. But while we have country roads from five to six rods wide, the same objection does not obtain with us. Observe again, I beg, that I do not counsel the planting of any such road-side tangles, or indeed the sparing of them, when *any better use can be made of the land*. I only plead for their continued

presence in place of a rude hurly-burly of stubs and harsh boulders, to which condition many farmers reduce them, and call it a judicious "slicking up."

I have run widely away this month from the little homestead of my friend Lackland; but if I should ever have the pleasure of

again meeting the HORTICULTURIST readers upon these pages, I may possibly revive their recollections of him, and look in once more upon his pig, and his cow, and his fruits.

Edgewood, Oct., 1865.

THE RICINUS.

BY EDWARD S. RAND, JR.

THIS plant, familiarly known as the Castor Oil Bean, was originally a native of the East Indies; * it has, however, been grown in all tropical countries from very early times, and has become naturalized in many places on either continent.

In Spanish countries it is commonly called "Palma Christi," under which name it is not unfrequently found in our own gardens. The application is evident to all who know the plant, and are familiar with its large expansive palmate foliage.

As an ornamental plant, either for massing or for single specimens, we know nothing its superior, and the new varieties which the last few years have given us, enable us to effect very striking combinations. There has, however, been much confusion of varieties, arising either from carelessness or ignorance, and the object of the present article is, not only to call attention to the plant, but to give a descriptive list of varieties which we have proved true, received from different sources, and which we can confidently recommend from our experience of the past few years.

There is nothing more mortifying to the gardener or amateur planting for a certain

effect than to have his plants turn out false to name, and thus his calculations come to naught. Where a mass of red is wanted a mass of white may be totally ineffective, and this mistake has often occurred in our plantings of *Ricinus*;—in fact we never had a whole paper of seed come true to name. Strange to say, we have been unable to find any article upon this plant or its cultivation in any domestic or foreign periodical, save a short notice of a "Tree Ricinus," in the "*Revue Horticole*" for 1861.

The plant, as we have said, is a native of the East Indies. The most common species, indeed that from which all the others have probably sprung, is *Ricinus communis* of Linnaeus. From this we have many species and varieties, somewhat confused, but which, with ordinary care, (as far as our experience goes), invariably produce themselves from seed. Even the "Tree Ricinus" does not constitute a different species; it is but the primitive type of those we cultivate as annuals, owing to the shortness of our season. If these were protected during the winter, the stalk would become woody, (in fact with us it is often hard enough to turn the edge of a knife), and the plant would continue to grow. This Tree Ricino grows at Nice, in Algeria, and even in the latitude of Montpellier, in France, where a protection of straw wound around the trunk suffices to preserve it during the coldest winters. In our climate, of course, greenhouse protection would be required, and while the plant is too large for small houses,

* There is some conflict of authority as to the native country of the plant; it was well known to the ancients, and was by them used medicinally. It has been so long naturalized in all tropical countries, that though the probabilities are it was originally from the East Indies, it cannot be thus stated with certainty. For an interesting account of the production of Castor Oil in his country, see new American Cyclopaedia.—(Castor Bean.)

planted out in a conservatory, it would be most effective.

The seeds usually sold by seedsmen are of two kinds, named *R. communis major* and *minor*: the former has red stalks, midribs and fruit; the latter is glaucous white; of the former, *R. sanguineus* is an improved variety; of the latter, *R. macrocarpus nanus*.

The Ricinus is one of those plants which should always find a place where there is room. It is cultivated chiefly for its foliage which is most effective in the flower garden or shrubbery; for a mass upon the lawn there is nothing better. Even the dwarf varieties are of tall habit; and the tall growing species often attain the height of ten feet in a single summer. All are remarkable for elegant habit; the tall stalks from six to nine feet in height, of red, green, or glaucous white, leaves large, palmate or peltate, with strong midrib of the color of the stalk, and with seven deep lobes, deeply serrate, and often covered with a rich bloom of flowers in purple clusters, the barren at the bottom of the spike greenish white or canary yellow, the fertile at the top generally reddish, and the large spikes of prickly capsules, all combine to render the plant singularly effective for decorative purposes.

The flowers are curious but not showy; they are very transient and often fall unnoticed; they vary much, however, in size and beauty in the different varieties.

The plants are raised from seed, which, in favorable seasons, ripens freely.

This may be sown in the open border, where the plants are to stand, about the middle of May, or as much sooner as the ground becomes warm; if sown early the beans decay. As the plants are very large and do not bear transplanting well, a distance of at least two or three feet should be left between them. In favorable seasons, the seeds vegetate in a few days, coming up with large seed leaves. From this time forward they grow with great rapidity, and by the first of August, are often six feet high and in full fruit.

Seed planted in the open border, how-

ever, will seldom perfect fruit, except in a most favorable season or a particularly warm locality, in our New England climate; we therefore, to obtain seed, as well as to gain a month in the display of foliage, must anticipate a little the opening of spring; to do this we sow the seeds in a hot bed.

Our method, which has proved most successful, is as follows:

From the first to the tenth of April, prepare a hot-bed of medium force; as soon as the heat is up put on a foot of tan; plant the seeds in a rather rich compost in small pots, one in a pot, rejecting all seeds that are soft or dull colored, and being careful to mark the variety on a label thrust firmly into the pot; plunge the pots up to the rim in the tan, and sift about half an inch of fine tan over the whole; give a copious watering; draw on the glass, and cover all with a mat or a board shutter. The seeds will be up in from thirty-six to forty-eight hours.

Remove the mat or shutter, and by giving air and light gradually, harden off the plants, opening the frame on sunny days, but being careful to prevent any chill.

Care should also be taken not to make the frame too deep, as the plants would become drawn and weak. If plenty of water is given the growth is very rapid, the roots soon fill the pots and the plants require shifting. This may be necessary several times before the weather is mild enough to plant them out. About the middle of May will be the earliest time they should be set out, and the first of June is often better; never till the weather is settled. The richer the soil the better, as thus the growth and production of foliage, which we wish to encourage, is more luxuriant. In dry weather water should be freely given. We have noticed, however, that a close clayey soil is not as favorable to healthy growth as a rich light mould.

The plants may be raised in a greenhouse, but are usually drawn and spindling.

A word regarding saving seed. When the capsule begins to ripen the thorny covering peels off from the hard horny shell;

the capsule, before erect, inclines downward, splits into three (or in few cases two) divisions, held together at top and base, and finally each division springs open with great force, throwing the bean to a considerable distance. The ripening of the seed should be watched, and the capsule gathered while still clinging to the stem.

The seeds of all the species are very beautifully marbled; it is from these the oil is obtained. They retain their vitality about two years, though we have had seed vegetate when five years old.

The plant is killed by the first frost, becoming black and unsightly.

The following species, or rather varieties are distinct:

R. communis, var major.—This is probably the parent of many of the finer varieties. It is a tall grower, with red stalk and large spikes of reddish brown seeds, very ornamental, but inferior to its varieties.

R. communis, var minor.—Of dwarf habit, glaucous green, and very pretty, but as the last, inferior to its varieties.

R. sanguineus.—Plant of tall habit, stalk and petioles dark glossy red; seed-spike very large, often a foot long, red and yellow; barren flowers white, fertile red; leaves dark green, with glossy red midribs, often two feet across; seeds very dark, marbled.

R. Borboniensis arboreus.—A tall plant of stout stocky habit; stalk covered with glaucous bloom, producing shoots freely from the axils of the leaves, giving the plant a shrubby appearance; foliage glaucous green, with pink midribs, deeply sub-serrate; leaves very large, often more than two feet across. The young foliage has a beautiful coppery lustre; male flowers very plenty, greenish; female fewer, green and red.

This is a most beautiful species; it is late in coming into flower, and with us does not ripen seed.

R. nanus macrocarpus.—A smaller variety than any of the preceding; leaves small, seldom exceeding ten inches in diameter; stalk and petioles glaucous; plant branch-

ing; flowers greenish. A full bloomer, very conspicuous from its large spikes of dark green seed vessels. Seeds very small.

R. spectabilis.—Of very tall habit. Stalk green, with heavy glaucous bloom, seldom branched, crowned by an immense spike of seed vessels. Barren flowers yellow; fertile reddish; seed capsules very prickly; leaves more than two feet across, roughly serrate, with large green midribs. A fine variety.

R. macrocarpus.—Somewhat resembling the last in appearance and foliage. Stem covered with purplish glaucous bloom; plant much branched and bearing many seed spikes; barren flowers canary yellow; fertile reddish.

We have a variety of the preceding which differs in being less glaucous, of dwarfer habit, and in the capsule never bursting, and the divisions of the capsule being so soft as to be easily rubbed off from the seed, and never horny as in other species.

R. leucocarpus.—A smaller plant than any of the preceding. Leaves green, with yellowish red midrib, hardly ten inches across; plant much branched, every part covered with light blueish bloom, which, rubbed off, shows a red stalk, &c. Flowers canary yellow and red. Seed spikes plentifully produced, but very short, with few small capsules.

R. Tuniciensis.—A tall growing, branching variety. Stalk and petioles red; leaves light green, with yellowish midribs barely a foot across. Seed spikes freely produced, small, without bloom; very prickly. Seed small, dark; a showy variety.

R. new species from Phillipines.—Under the above title we received a very distinct plant. It is somewhat in the way of *R. sanguineus*, but of a greenish cast; leaves often light green, with no bloom; stalk reddish green; young foliage glistening of metallic lustre; flowers reddish green; a tall grower; stalk seldom branched.

There are other species we have not yet sufficiently proved, on which we hope to report in due time.

Glen Ridge, Oct., 1865.

GARDENING.

BY J. M. MERRICK, JR., WALPOLE, MASS.

I do not know what exclusive right angling has to be called the contemplative man's recreation.

Isaac Walton, to be sure, calls it so—and so it is; but not to the prejudice of gardening, the pursuit of which tends certainly to reflection and contemplation. The skillful gardener, whose heart is in his work, can hardly fail to become a thoughtful and self-contained man. If an undevout astronomer be mad, an undevout gardener certainly is, for he is familiar with mysteries no less wonderful than those of the stargazer. As Dr. Johnson saw in Thrale's wash-tubs, the potentialities of growing rich beyond the dreams of avarice, so the true gardener sees in his vines and strawberries, in his pear trees and melons, the potentialities of satisfaction beyond the dreams of those who are not yet initiated into the sacred mysteries of Ceres and Pomona. Of satisfaction, be it marked, not wholly of the gross and sensual comfort of devouring the choice fruit he tends, but of the higher and more complete pleasure of thinking that by his skill were these miracles helped to perfection.

I find the pleasure of raising fruit, tending and trimming vines, watering in dry times, and sheltering from the sun in hot, equal or more than equal to the pleasure of eating the fruit when ripe.

For, a bunch of grapes is eaten and gone, it was and is not; but there is left the vine, which you may train and trim to suit your caprice, and over which you may study and ponder and addle your brain as often as a new and complete manual is published.

And herein, *i. e.*, in training and trimming, consists, I suppose, a great part of the fascination that attends the whole matter of horticulture. A vine is unlike anything else. A pear tree or an apple tree

must be grown in a stiff upright form; or, if we do train it on a wall, it looks unsightly and unnatural. But a vine, on the other hand, bends under your fingers. It may go this way this year, and that way next; now horizontal, and now upright; now a single stick with bunches on spurs, and now an elaborate system of cordons and triple shoots. In short, it is clay in the hands of the potter, and the fertile brains of experimenters are racked to find a way in which it will *not* grow, flourish and bear fruit.

A man gets very intimate with vines and trees and plants. He has had a hand in shaping and adjusting their growth, supplying their wants, and fighting their enemies, and in the end they have become, as it were, his children. If some Boeotian heel comes down upon a favorable strawberry, the last perhaps of a dozen of its class, he feels as keen a pang as if his most tender corn were crunched; and to lose one of the arms of his pet Iona, is next to losing an arm of flesh and blood.

Since April, I have had little to do but to potter about in the garden and watch my plants. In doing this, I have realized the truth of Thoreau's saying, that "the simplest occupation, any unquestioned country mode of life which detains us in the open air, is alluring. The man who picks peas steadily for a living is more respectable; he is even envied by his shop-worn neighbors. We are as happy as the birds when our Good Genius permits us to pursue out-door work without a sense of dissipation."

I have found Thoreau is right, and I have felt unmixed delight in watching my *Agriculturist* strawberries put out leaf after leaf, until they made stools as big as a half bushel; or in observing day by day how the little Delaware grapes, waxed and

throve, reached their full size, became translucent, and then began to condense the hot September sunshine, and acquire the color and flavor that makes them without a rival in our long list of Autumn fruits. I have, I suppose, spent hours in watching with silent wonder, my Rogers' 15 vines. They climb to the top of the trellis in June, and then wherever cut or pinched they throw out duplicate or triplicate spurs, that would gladden the heart of a Thomery man. Meantime the bottom shoot thickens up, and a vine two years old looks like a five year old vine of any other kind. Much time too have I spent on my knees and in other painful positions, watering, weeding, and digging around about twenty kinds of new strawberries. I bought them, partly because I am fond of novelties, and partly because I was assured that every one of these varieties was better than any known kind. In some of them I have had much ado to keep the breath of life, and some have perished miserably in spite of my pains. I may perhaps give my paper a more practical turn if I note down the characteristics of some of the new varieties, so far as they are shown by their leaves and manner of growth.

The *Lucida Perfecta*, I hold to have the most beautiful leaf of any strawberry I know, firm, glossy and strong. The whole plant is a model of beauty.

Madame Cologne has a fine habit of growth, dark green, but not glossy leaves; grows readily, and makes a moderate number of runners.

The *Exposition à Chalons* and Myatt's *Quinquefolia* are poor, feeble growers, seeming to be sickly and in an uncongenial home, whatever you may do for them.

The *Haquin*, a strawberry which Mr. Knox says is not new; is distinguishable among many kinds by the peculiar green of its leaves; something like a faded window blind. New or old, it is a good strong plant.

The *Orb* and *Lucas* are good growers and

make fine plants, with nothing peculiar about them, except that the foliage of the former is very dark.

La Negresse is a poor grower at first, making a strong contrast with the *Frogmore*, which stands next to my *Agriculturist*, and though of a wholly different type, is quite a match for them in size and health. I have seedlings of my own coming on, which may beat all kinds yet known. I am already casting about in my mind, for a name for my best plant, when I shall find which that is.

Speaking of strawberries, I should like to know why the critics are so cruel, mordacious and truculent towards the graceful little story, "Needle and Garden," that has just come to a close in the October Atlantic. The story is charming of itself, and so pleasantly told, that it carries with it an air of likelihood, and we say of it, *si non e vero e ben trovato*. Perhaps after all, it is a true story, (like Robinson Crusoe) but needs horticultural readers to appreciate it. At all events, it charms and interests the lucky reader who takes the *Country Gentleman*, and has Wilson's Albany Seedling in his garden, and is worth more to me than an acre of Gail Hamilton's platitudes. But then we must have patience with the critics. They probably, like many of the strawberry girl's customers, do not know whether the berries grow on a vine, or on a tree. Much less could they tell a Jenny Lind from a Wilson, twenty feet off. The whole story is a practical sermon, with the same text that some have which have been preached in the columns of this journal, viz: The practicability of woman's extending her sphere of labor. Whether founded on fact or not, (and the Philadelphia readers of the HORTICULTURIST might find out and tell us) it points out one of many occupations to which women can turn their hand, and relieve themselves from the drudgery of the needle.

Hoeing strawberries is healthier work than bending over a sewing machine. We trust that those chapters will not be the

Strawberry Girl's last contributions to the Atlantic.

"*De gustibus non opus est iustibus.*" I have never realized the full meaning of this old proverb, until this year, in listening to the comments made by various people on different kinds of grapes. Some are ready to do battle for the toughest and nastiest wild grape, affirming, because they are used to nothing better, that it is "good." Others pin their faith on the Concord; a more refined taste seeks the Diana, if ripe, and others hesitate between that and the Delaware. Very few, however, who can get Dianas and Delawares enough, go back to their old favorites.

A skillful grower of vines, and well acquainted with the different kinds, writes to me this week, that he has some perfectly ripe and well grown Concords, and that he thinks they are "horrible."

I cannot speak so harshly of so faithful a friend as the Concord, but I am willing to admit, that as a grape for the table, it is as much below the Delaware, or the fully ripe Diana, as it is above the wild kinds from which it sprung. As a grape for wine, it will be a long time before the Concord goes out of fashion, either in Massachusetts or the West. I have this year had the satisfaction of tasting Concord wine, one, two and three years old, made by the skillful hands of the originator of the vine, and it was of most surpassing excellence.

I should think it needless to extol the Concord as a wine grape, if there were not some people who condemn it *in toto*. I myself admit that it has a dangerous rival in the garden, in Rogers' 4 and 19.

I have been coaxing along one Adirondac this year. In a soil where the Delawares, with half the attention, grew like weeds, it stood still about two months; then it took a start and grew well, and at last it mildewed as bad as any English gooseberry. So did an Isabella standing by its side; but my Ionas, though small vines, resisted the mildew heroically. Neither they, nor, strange to say, my Allen's Hybrids, show a single

speck. Both kept their leaves bright green till frost, and ripened their wood to the very tip. All through August I fought mildew with sulphur and a tin dredging box, wishing I had a bellows to blow it on to the vines. But it, (the mildew, not the bellows or the sulphur) stopped of itself about the first of September, and though at one time it threatened to do a great deal of damage, did very little, at least, in my neighborhood.

Since my article in the October number of this journal was written, I have had the satisfaction of testing and examining critically twelve numbers of Rogers' hybrid grapes from the original vines.

This examination was a source of great pleasure to me, as it removed the last shade of doubt I might possibly have felt as to these grapes being genuine hybrids. I procured the grapes for the purpose of getting the seeds, and was astonished to notice the wonderful difference in the seeds of the various numbers; some being round and plump, others long and thin, and much like the seeds of foreign kinds.

In general, I suppose the excellence of the grape is in direct ratio to the smallness of its seeds. Compare, for instance, the seeds of a wild grape (*Labrusca*) with the delicate little seeds of an Iona. The difference will be very striking.

Good things are multiplying so fast that it will be necessary to enlarge our gardens year by year, or else to be continually pulling up second rate plants and throwing them into the road.

This brings me back to where I started, —the garden—and as parting advice, I say, keep your long-handled spade and your hoe sharp, and keep them aging all summer long, bearing in mind the words of Evelyn, as quoted by Thoreau: "There is, in truth, no compost or lactation whatsoever, comparable to this continual motion, repastination, and turning of the mould with the spade. The earth, especially if fresh, has a certain magnetism in it, by which it attracts the salt, power, or virtue

(call it either) which gives it life, and is the logic of all the labor and stir we keep about it, to sustain us; all duggings and sordid temperings being but the vicars succedaneous to this improvement."

"Even if the earth does not attract vital spirits" from the air, as Sir Kenelm Digby thinks it does, the spader certainly will.

A REPLY TO REUBEN ON THE COLOR AND HARDINESS OF PLANTS.

BY DR. J. STAYMAN, LEAVENWORTH, KANSAS.

In the notes in the August Number by Reuben, he makes the following comments upon my article on the color and hardiness of plants:

He says—"A well-prepared article, and evidently from careful study, but yet does not convince me that it is sound. I would know how long these experiments have been tested: the soil and condition of it, whether dry and under-drained, &c. &c." "I however, cannot think that the color of the petal of a flower or the pellicle of the fruit has aught to do with the hardihood of the plant. A dark wood and dark green foliage may have to do in the ratio supposed by the Doctor. I shall be glad to read more of his observations."

In the article referred to, I did not pretend to give any argument upon the subject, simply stated the results of my experiments, which have been conducted through upwards of twenty years of observation and research—the last ten by practical demonstration. In an article on the health and diseases of plants in July No., 1864, the subject was discussed to some extent; but as facts are more convincing than argument, I have stated them, and left the subject open for the observation of others. It would be too tedious to go into detail at this time, and give the particulars to show how I arrived at those conclusions; yet it might be interesting to know that I had collected upwards of one thousand varieties of apples, two hundred and fifty of roses, eighty of verbenas, sixty of geraniums, fifty of strawberries, eighty of potatoes, fifteen of rhubarb, forty of peas, thirty of beans, numerous

other vegetables, plants, flowers, novelties, and thousands of seedlings. I have collected all the information I could respecting them in other localities.

These experiments have been made first by growing them on good suitable well-drained soil in close proximity under similar conditions. Secondly, separately, as far as I could, under like and unlike circumstances. Thirdly, by collecting the facts of others in regard to their health, constitution, and hardiness, and how they resisted the sudden and extreme changes of temperature. Fourthly, by comparing the effects of cool wet seasons with hot dry seasons, and the sudden and extreme variations of temperature.

The evidence thus collected appears to be conclusive, that the health, vitality, and hardiness depends upon the amount of heat the plants absorb, and this is in the relation to their color.

Reuben thinks the color of the flower or fruit has nothing to do with the hardiness of the plant. If the color of the flower or fruit has nothing to do with the absorption of heat, then he is right; but on the contrary, if it has, then it affects the plant in that proportion. The flowers and fruit are a large proportion of the plant, but rather of short duration and at long intervals; consequently the effects produced are only in that ratio, otherwise but few plants could withstand the exhaustion. The leaves, bark and bark being of longer duration, and in larger proportion, they produce the marked effects, and if in a positive state, will control any other part of the plant in a

gative state, minus that proportion. But when all parts are in a negative state we can very readily perceive the deleterious influence, no plant can withstand the exhaustion. Therefore, all plants that have a strong vitality, and are hardy, are in a positive state compared with others.

Any variegation of the foliage or bark of a negative character, shows incipient debility, disease, and degeneracy; but on the contrary, any variegation towards a positive state shows marks of health, durability, and improvement. Even when the bark, or foliage, is much speckled with white, it produces an effect; but when they are striped or blotched with white it produces a marked effect, which may be seen on those varieties.

The question is not simply does the color of the flower or fruit affect their hardiness *always perceptibly*; but is their health, vitality, and hardiness in proportion to the amount of heat the plants absorb, and is this in exact relation to their color, other conditions being equal. However, as a general rule, the color of the flower or fruit corresponds with the bark and foliage, and when either is well marked the effects are perceptible. In illustration of these principles, I have made a selection of a few varieties of fruit and flowers.

Summer Apples, Red Astrachan, Early Red, Red June.

Autumn Apples, Duchess of Oldenburg, Fameuse, Autumn Strawberry.

Winter Apples, Ben Davis, Wine Sap, Sweet Wine Sap, Red Russet.

Crab Apples, Showy Crab, Red Crab, Oblong Crab.

Native Grapes, Concord, Hartford Prolific, Oporto, Clinton, Norton's Virginia, Logan, Native Hamburg, Osee.

We have now given you a small list of fruit of dark color, which are hardy, healthy, and of strong vitality, which have resisted the vicissitudes of this climate.

Now, friend, Reuben, you can certainly make out an equal number as hardy and healthy of *light color*, if it has nothing to do

with their "hardihood." And if the color of the flower has nothing to do with the matter, please select an equal number of as hardy healthy, and strong growing roses, in the different classes of *light color*, as the following:

June Rose, George the Fourth, Paul Ricaut. Runners King and Queen of the Prairie. Pillar's Crimson Boursault, Russel's Cottage, Moss, Laneii, Luxemburg, Perpetual Moss, Abel Carriere, General Druout, Hybrid Perpetual, Prince Albert, Pius the Ninth, Lion of Combats, Paeonia, Triomphe de L'Exposition, Eugene Appert, Noisette, Fellenberg, Beauty of Greenmount, Bourbon Omar Pacha, Gloire de Rosamene, Bengal, Louis Phillippe, Purple Crown, Tea Hamalton, Lyon's Seedling.

And if there is doubt upon the subject of variegated leaf plants, let him compare the variegated Balm, Lonicera, Vinca, Deutzia, Hydrangea, variegata and aurea, with those that are not variegated.

But to fully settle this subject, let him compare the following *light colored* variegated leaf Geraniums: Alba Marginata, Florian, Hendersoni, Perfection, Silver Queen, Victoria, with the following of darker color and scarlet flowers, Boule de Feu, Maria Henry, Princess of Prussia, Sheen, Rival, Tom Thumb, Diadem.

The subject might be continued through all varieties of trees, shrubs, plants, and vegetation with the same results.

There is no subject on Horticulture which can be more easily and certainly demonstrated than the principles herein advanced.

We have not yet reached the most important and interesting portion of this subject, namely: the hybridization and production of new varieties, the cultivation and training of plants in harmony with this theory, the rapid advancement in this science, when these principles become generally known and applied. It will forever discard the idea of producing good healthy, hardy sorts from those of a negative character, or those which have such a tendency.

as the following Grapes: Anna, Cuyahoga, Clara, Maratawney, Rebecca, Cassidy, Taylor, or even the Catawba, Diana, or far-famed Delaware.

It will lead to a certain and scientific basis to start with, and will, therefore, save much time, labor, and anxiety by selecting only those of a positive character, either for seedlings or hybridization, as may be seen in the origin of the Concord, Clinton, and Norton's Virginia, or as Rogers Hybrids, so many good sorts produced from such indifferent positive varieties.

The principles herein advanced will explain why some plants and trees are hardy at one place and tender at another, and sometimes so on the same ground, by simply the soil, care and manner of cultivation. If you wish your plants healthy, keep them dark green by every process congenial to

their nature, that they may absorb heat carbonic acid and electricity.

If you cannot keep them so, substitute those naturally of a very dark color, and then keep them so by care and cultivation, or they will soon become diseased. In conclusion I will make the following prediction: that there never will be a good and permanent improvement made in the production of new varieties, taking into consideration their productiveness, hardness, health, and longevity, unless one or both parents have a *marked positive character*; quality and beauty may be produced, but they will soon end in disappointment, for they will have to give place to better sorts more congenial to our wants. There is no inherent principle within a plant of a negative character to produce a positive effect.

THE TRUE IDEAL OF GARDENING.

BY A. D. G.

In discoursing upon the true ideal in gardening, it will be needful, first; to fix certain meets and bounds to our subject. We are not to inquire after the highest conceivable, or even practicable style of horticulture. Else we should copy some of the rural scenes which poets have painted, or go to certain grand estates in foreign lands, and, selecting their best features, construct an establishment as near perfection as is possible to human art. Our aim is humbler than this. It is to consider what is the best style of gardening for the numerous readers of this journal who have small incomes; are able perhaps to keep only one serving man, and expect to do more or less work with their own hands.

It is obvious, on a little reflection, that what is an ideal to one will not be exactly so to another. One will find his highest desires met in a well-ordered *vegetable garden*. To have the earliest asparagus, peas and lettuce; to surprise himself with a dish

of new potatoes on the Fourth of July; to raise goodly squashes for summer and winter; to abound in beets and onions, cauliflower and cabbages,—what can be a happier lot than this? The man will doubtless pride himself on the mellowness, depth and richness of his soil, and on the straightness of his walks and rows of vegetables. Not a weed is allowed to steal the forage from his useful plants, or to reflect upon the industry and tidiness of the owner. Hot-beds, hand-glasses, and cold-frames bring forward tender esculents, and protect them from untimely frosts. The striped bug is caught napping; the cut-worm is demoralized with lime, and ants are taken off with poisoned sugars.

And so, as the summer waxes and wanes bringing its succession of juicy and wholesome products, the proprietor paces up and down his walks with solid satisfaction.—Here, he says, is something substantial. There is no moonshine in these vegetables.

they build up and strengthen the human frame; they add much to the physical comfort of all who eat; they help to support a family. Unlike flowers, which only delight the eye, or feed the fancy, these feed and nourish the body;—are a real, material good;—and what more can mortal man desire?

His neighbor will choose to add a fruit garden to his vegetable department. He would not underrate the one, but would superadd the other, and divide his labors between them. Here we shall see well filled ranks of currants, strawberries, raspberries, blackberries, grapes, plums, cherries and pears. The care of these fruits will add somewhat to his labors, but will also improve the character of the grounds. The currant-worm will stop at nothing short of hellebore and copperas. Berries of all sorts must be covered in winter; the grape must be pruned and protected; the pear must be trained and guarded from blight; and, as for the plum and cherry, one must fight in their branches against black knot, bursting bark, birds and the Grand Turk, and then divide a large share of the fruit between them.

Yet a fruit garden brings with it something beside trouble. Its plants, vines and trees are beautiful to look upon, whether in leaf, flower, or fruit. It is a pleasant occupation to train them; to study their several laws of growth, and to observe how genially they respond to skillful culture. They fairly smile their gratitude for your endeavors to heal their diseases, and to promote their health.

The culture of fruit appeals to a higher class of sentiments than the raising of vegetables. It associates us at once with the whole fraternity of pomologists, ancient and modern,—a fraternity respectable and large. To succeed well in growing fruit, one needs to give it his best thoughts and endeavors. As an article of food, it is less simply useful than vegetables, and promotes a more refined gratification. It has been happily styled “the flower of com-

modities.” The modern fondness (we may almost call it the *passion*) for raising seedling fruits is constantly elevating the standard of excellence, and improving the public taste. It is not enough now for a man to produce a strawberry as good as the Wilson, a grape as good as the Isabella, a pear equal to the Bartlett; they must, in some respect, be better. Of the pecuniary profit of fruit raising, we need not speak at length in this place; for every one knows that it yields larger returns for the money and labor expended upon it than any other crop.

It is no wonder, then, that this is to so many the highest style of gardening. It satisfies both the aesthetic and practical demands of their nature. Yet there are other horticulturists who cannot be wholly content with fruit growing. *Flowers* have their devotees, as ardent, if not as numerous as fruits. Doubtless, the majority of floriculturists are not insensible to the solid virtues of tomatoes, onions and pumpkins, nor are they sublimated above the finer relish of peaches, pears and grapes; yet they confess to a heartier love for the products of the flower garden.

This fondness for flowers shows itself in many degrees and forms. Now, it fringes the carrot bed with a row of marigolds and poppies; now it claims a border among the parsnips and melons, where it blooms out in pansies and pinks, asters and dahlias, or it appropriates the well tilled patches of soil around the fruit trees, and covers them with portulaca and Drummond's phlox. At other times, it cuts out hearts and diamonds in the grass, and makes them radiant with verbenas, petunias and geraniums; or, still again, it asks for a more extended tract of ground where it may disport itself on a larger scale, and in all manner of ways.

Woman claims the flower-garden as her special province, and here she may insist upon her “rights” without offending the pride of her appointed lord. It is an atmosphere of refinement, purity and tender-

ness. There is no grace of person or character which flowers do not symbolize; no sentiment of the heart which they do not express.

The influence of floriculture upon the health and happiness of those engaged in it is not the least of its claims upon our regard. Very few of its operations are beyond the strength of invalids or ladies; and then, the work is so cheering and so rewarding, it "doeth good like a medicine;" nay, it often brings back health when the potions of the apothecary had been tried in vain.

But this discourse on gardens would be incomplete without some reference to *the pleasure-ground or lawn*. The mere utilitarian sees little to be desired in grass-plats and ornamental trees. He would convert the land so wasted, into a garden of cucumbers, or a potato patch, or an orchard of apples and pears. And some persons have such a passion for flowers, that they would cut up the finest lawn into beds of glittering blossoms. Others hold that a pleasure ground in which flowers are kept subordinate to grass and trees, is of a higher order than one in which floricultural displays are made prominent. In their view, the lawn appeals to a different class of sentiments from those of the flower-garden, or indeed, of any other cultivated ground. It is "nature to advantage dressed." Considered as a work of art, it is the superiority of a well painted landscape over painted flowers or fruits. It speaks of culture and refinement, of elevation above the stern demands of utility, or the gross promptings of appetite. It is expression of repose and calm enjoyment.

But why set one style or department of gardening over against another? Rather would we embrace them all in one view, and so constitute our true ideal; and, in most country towns, where land is plenty and cheap, this can easily be realized. The kitchen garden is a necessity. There is no use in denying that we all like good "garden sauce." It makes up an important

part of our daily food, and promotes largely the comfort and health of every household.

We want fruit also. Less absolutely needful, it yet contributes much to our enjoyment, affording something wholesome and pleasant during nearly every month of the year. (If the fruit garden can expand on one side into an orchard, it will be a very useful addition; though this cannot always be expected). And can any one be content without his collection of flowers? No universal rule can be laid down as to their number or style of arrangement. One will choose to set them in little patches, here and there, to enliven the borders of his walks; another will place them, for the most part, in a scene by themselves, separate from fruits and vegetables, and even the lawn. Some of the most desirable plants have only a short-lived inflorescence, and these become withered and unshapely. It is not in good taste to disfigure the highly dressed grass-plat with these.

For ourselves, we prefer to lay off a portion of ground for the flower-garden, somewhat aside from the constantly traversed walks, and to devote it to all kinds of blossoming things. Here we can have the crocus, snow-drop and mezereon venturing forth amid the ice and snow of March; the later hyacinth and tulip, perennial herbaceous plants, biennials, annuals, roses, the late bulbs and small shrubs; all of them together affording a succession of flowers from April to November. What, if some of them decay, and for a while look a little untidy? Others are coming on to take their places, and so, first and last, will delight the senses and gladden the heart through all the floral year. As we have already intimated, the highest and best feature of our ideal garden is the lawn; the preparation and keeping of this, we would bestow our chief thought. The grass, the trees and shrubs, the hedges and the walks should be perfect in their arrangement and keeping. To all of this we would add, if practicable, a conservatory and grapevines.

If any object to this view of the complete garden because they cannot afford all these things, or have not leisure time to attend to them, we venture to say, that a majority of the readers of this journal can afford them, unless it be the seeming luxury of the conservatory and grapery, and this can be dispensed with. But when the means and the time are absolutely wanting, we would say, adjust the size of your grounds accordingly. Construct a smaller garden, if need be, but do not leave out any of its parts. The ideal garden we have now desired to paint, is one which can be managed easily, without undue sacrifice of money or time. It is to be presumed that none of us are parsimonious or indolent! Our ideal garden neither asks nor permits any more labor on the part of its owner than will contribute to his health. When larger than this, it becomes despoiled of its

poetry and sweetness, and falls into the low level of task-work and drudgery. Nor is it enough that we can manage to keep it in order by carefully husbanding our time and strength, and devoting them wholly to its care. Have we not something else, and more important to do? We have social obligations, literary or scientific studies, public, religious and civil duties which require our attention. And the complete garden does not conflict with these. It is a place of recreation and enjoyment, an example of culture, a fountain of inspiration. In that ideal garden sketched by Divine direction, the trees bore twelve manner of fruits, and yielded their fruit every month, and the leaves of the trees were for the healing of the nations. A place of healing and refreshment should our gardens be, for the body and the soul.

NATIVE PLANTS—THEIR CULTIVATION, &c

BY C. N. B.

To those interested in horticulture, we would recommend for the advancement of their gardens, one great and inexhaustible storehouse of beauty, viz: the woods and fields with their wreath of uncultivated blossoms. It is in the power of almost every one to draw from this source, and such is the perversity of our nature, perhaps on this very account, the opportunity neglected. While various flowers, neither graceful nor fragrant, are admitted into the precinct of a garden, because, perhaps they are rare, of difficult growth or foreign extraction, many a wild native of our own hills and valleys would be altogether denied a place there. This is in bad taste, and the usual plea, "O! they are so common!" is no means a reasonable or satisfactory objection. Whatever is perfectly beautiful ought claim a place, though this would involve so immense a collection that, of course, we would recommend a judicious selection from so vast a stock.

We find upon trial many native plants difficult to cultivate; and after a few years they entirely disappear unless special care is bestowed on them. They appear to suffer more from the effect of freezing and thawing in winter, thus injuring the crown of their roots; or being thrown out of the ground by the action of the frost, they are destroyed. They receive some protection, in a natural state, by being, in winter, covered with water, grass, leaves or snow, and should likewise be protected under cultivation, by throwing over them hay, straw, litter or earth.

The names of these comparatively tender plants are the PLEURANT Root, (*Asclepias tuberosa*) with its bright orange colored flowers. It is a rare plant, and we know of none in a wild state in this vicinity. We have noticed it on the sandy plains in the vicinity of Albany and the Irondequoit Bay, Lake Ontario, near Rochester. The rich flowering LIATRIS, (*scariosa*) with its ra-

cence of light purple flowers; its roots a solid tuber and truncated; that is, it has the appearance of its end being bitten or cut off. The popular name of this plant is the *Devil's Bit*. We were informed many years ago by an old root doctor, that it received its appellation in this way: it having come to the knowledge of the great adversary that this plant was useful to mankind, and possessed great medicinal properties, he, in order to show his animosity to our race, bit off the end of the root, thereby depriving it of its most useful properties. Upon doubting the truth of the legend, and observing to him that the roots of some other plants presented the truncated form, "Why, bless me," replied the old man, "don't you see the marks of his teeth?"

The *Liatris* is found growing in a clayey soil on the border of woods. To this family we are indebted for many of our autumn ornaments in our flower garden borders. They are deciduous herbaceous plants, propagated by division and flourishing in common garden soil. Fine specimens of this plant can easily be obtained by seedlings. The splendid *CARDINAL FLOWER LOBELIA*, (*cardinalis*) when once introduced into a garden will propagate itself, if the soil is congenial, by its seeds, and produce some fine plants.

THE INDIAN TURNIP, (*arum*) with its singular flower, variegated inside with stripes of pale green or brown. In autumn the plant presents its branches of shining scarlet berries.

The SOAP WORT GENTIAN is a handsome autumnal plant, with blue fringed flowers. The several species of the *Orchis*, particularly *Fimbriata*, and the *Grandiflora*, both elegant plants, and to be found in swamps.

There is another class of native plants that require no particular care, but when once introduced into the garden, continue to grow and thrive for many years. The names of some of these are the *Astrea*, some of which can be made to grow to the height of ten feet, and bearing upon its spreading top several hundred flowers.

The GOLDEN ROD,—(*Solidago*)—many of them coarse but showy plants, all yellow flowered. Propagated by division of the plant in spring; showy at the back of herbaceous borders, or the back rows of herbaceous plants in the front of the shrub-borders.

The SIDE-SADDLE FLOWER, (*Sarracenia*) by taking up in the fall, with the wet moss or sphagnum attached to its roots, put into water and cultivated like the hyacinth and placed on a parlor window, it will flourish and show its curious flowers towards spring. It is a half hardy perennial. Division in spring; fibry peat and chopped sphagnum. There are three varieties, purple, yellow and green.

How often in gardens have we seen the coarse and common *Althea*, or the more common *Lilac* towering in pride and usurping a place which might have been filled by a cluster of *LAUREL*, (*Kalmia latifolia*) with its clusters of rosy blossoms, or even by a specimen of the magnolia, with its white glittering flowers and its delicious perfume scenting the whole garden. We have heard it advanced particularly by foreigners, that our wild flowers have no fragrance; but let any one ride along the skirts of a wood, on a calm spring morning or evening and judge for himself. Nothing can exceed their delicate odor, and we have often discovered their hiding places by the tell-tale charm.

From the meadow, from the wood, from the gurgling stream, many a wild native flower has been transplanted to a genial soil beneath the homestead's sheltering wing, and yielded a dainty offering to the household gods, by the hands of those fair priestesses who have now become their ministers. By the planting of a few trees and shrubs and flowers and climbing plants around that once bare and uninteresting house, it has become a tasteful residence and its money value more than doubled. A cultivated taste displays itself in a thousand forms, and at every touch of its hand gives beauty and value to property.

A judicious taste, so far from plunging its possessor into expense makes money for him.

The eye of the lover of nature is always filled with beautiful and picturesque objects. His ear soon becomes familiar with the light carol of every bird which inhabits

the thicket or the forest; and his eye is soon made acquainted with the whole lovely family of flowers which enamel the earth and enrich the air with their wide scattered perfume.

Pokeopeie, 1865.

NOTES ON THE SEPTEMBER NUMBER.

NATURAL AGENTS OF VEGETATION.

PRACTICAL theory of vegetation is a knowledge so rare that I rejoice you are giving from time to time more or less of it. Every grower of tree or plant, and indeed every one, whether they be growers or merely admirers of flowers and plants, but as yet engaged in the "sugar and the cotton trade," should have knowledge of the action of the elements, air, light, water, etc., in order to fully understand the creations of the earth as set before him. To this knowledge, combined with practice, our best gardeners can only ascribe their successes over those of men who follow a practice to which they have been educated, without thought of its why and wherefrom.

ON GATEWAYS.

The writer has well hit off our want of appreciation of approach gateways. Like him I do not think all crooked things are curved lines or lines or emblems of beauty; but as entrance gates to most of our country residences, I would sooner trust for good effect to the handling of their proprietors, in forming gates from the oaks and pines of their forest grounds, than the plane and rule of the common carpenter. Rarely will the same style of gate in all its adornments or forms suit two places,—the entrance from the house, the width of the approach road, the angle at which it starts from the main or public road, and many other points are to be counted in forming a gateway.

Among other gateways, that of the agricultural, made from various tools, as the we, rake, spade, etc., is occasionally effective where the buildings and grounds have

methodical characters of the well-to-do and systematic farmer.

To many of our country houses, the covered gateway, as well as the covered carriage porch or *porte cochere*, are items that will add much of comfort as well as beauty. I trust this article will be continued and illustrated fully.

OUR NATIVE CLIMBERS.

Another article in the right direction. It may be, the writer occasionally describes a little wide of the mark, but he is causing others to think and look and cultivate. As he says, much of beauty may be added to our country houses, by the addition of a few of our native climbers, really requiring little of expense, except the time and labor of planting. One thing, however, I have found in many years of practice, and that is, it is cheaper to buy of the nurserymen, the few plants wanted, than expend the time, wear and tear of horse and wagon in seeking them from out the fence, corners, etc. Only when you go to buy of the dealers, buy what you want, and not what he has to sell; in other words, stick to the native plant, rather than buy some new climber that the dealer may advise.

HARVEST HOME.

It is pleasant to read of the heartful rejoicings, of earlier designs of this earth, over the bounties the good God bestowed, but beyond that of reading there is nothing. In our country all the rejoicing lays in the amount of dollars obtained on the market stand, and nearly all our holidays are practically made days of usefulness in finishing up some light and not pressing business.

We have, really and truly, as a people, no such thing as days or weeks of true heartfelt rejoicings for the manifold blessings daily bestowed upon us by the Almighty—would it were otherwise.

CURIOSITIES OF VEGETATION.

Like its predecessors, full of information. Let them be continued.

THE MELON.

Historically practical, but some of its deductions may perhaps be questioned. In the middle Southern States, Tennessee, etc., the melon is so very easily grown, and to such size, while at the same time it retains its flavor, that it not unfrequently forms a great part of the food during the period of summer's greatest heat. Rarely as it is treated of in our journals, we find that around nearly all of our cities and large towns, even as far north as Hartford, in Connecticut, it is one of the most profitable of annual crops. Many growers realizing from three to five hundred dollars per acre for their sales.

Some years since, two or three new named sorts of watermelons were sent out, one under name of Bradford, the other name I now forget. Pray let us know, how, in their cultivation, they have compared with the "Apple Seeded" or Imperial for delicacy, or the Mountain Sprout for size and flavor. Of the citron or musk melon family, I have never found any equal to one named Skillman's fine netted, but latterly all the seed I get of it is impure.

TRUFFLES.

First let us quote: "One has to be educated in order to appreciate talent." So I think I should require to be educated in order to relish truffles, perhaps not, for I do love mushrooms when well cooked, and yet, — underground fungi we occasionally find, especially in light soils, where old roots of trees have been left to decay undisturbed; but whether they belong to what is termed food for man, we confess we have never investigated.

HYBRIDIZING GLADIOLI.

A practical account of the course of hybridizing, but nothing new. One item is here told, however, of which we wish to make a note. It is that from a large bed of seedlings, only one or two are selected as desirable; the balance are placed among what are termed mixed sorts and sold.

Thus we have told us the origin of so much trash, under name of gladioli, yearly to be found in gardens and purchased at plant stores. Let us hope the time will be when public taste shall discountenance every dealer, who, for dollars and cents, assist to detract and dishearten the labors and beauties of floriculture.

The lovers of gladioli should visit some of the gardens around Boston, or Springfield in Massachusetts, or Newburgh, New-York and Brooklyn, where they may see large beds of the most beautiful sorts, as Penelope, Aristotle, &c., &c. It is a beautiful and easily cultivated flower, and should be in every garden, but only in its best forms.

ACTION OF METALLIC SALTS.

With Dr. Dake, I like to see and read of experiments, and would suggest that he take up and experiment, for he is reported to have both the ability of brains and the time and pecuniary means at control.

I shall rejoice when our fungus or sporidia is shown to affect only plants (as I now believe) that are unhealthy, from some cause, either by artificial practices or otherwise. Horticulturists yearly expend thousands in empirical practices to remedy or prevent diseases, of which they literally know nothing.

REPORT ON GRAPES.

Thanks for this record. In premises taken 1st, 2d, &c., I mainly coincide, but all do not hold. I have this, as years before, found rot and mildew on old and young vines, cultivated and uncultivated, pruned and unpruned, but as a rule on which the base premises, have found less of rot or mildew on young and healthy unpruned

summer vines, than on those older or even of same age, but which had been scientifically amputated from year to year. My observations have been made in the States of New York, Ohio, Pennsylvania, Illinois, and Missouri.

A few days since, while in the humor for research, I looked back at records and teachings of our best grape men of twenty-five years ago, and amused myself at the thought of some of them, at least, having practised very different from the teaching of their writings.

EDITOR'S TABLE.

You may see, Messrs. Editors, that I have no business here, but as it is often that the cream of your journal is gathered, and that here are items not elsewhere found, excuse me, if I for once call in and

ask Mr. Williams to write us an account of Kittatinny blackberry, its origin, habit, time of maturing, form of berry, color of stem, thorns, &c., &c.

Mr. Nicholson's cherry, ripe 17th July, is not according to the books or my knowledge. A late cherry,—Hildersheim,—is later. Belle Magnifique sometimes ripens in July, and all along until September, and young and vigorous trees, we all know, do not mature their fruit as early as trees of more age. The statement that the kind is ten days later than any in his vicinity does not augur well for the old cherry region of Ohio; besides, I have so high an opinion of Dr. Kirtland's judgment on such matters, that I look on his remark as one not intended to stand out in print.

REUBEN.

CULTURE OF THE ROSE.

BY FRANCIS PARKMAN.

(Continued.)

CUTTINGS.

All roses may be propagated by cuttings, but some kinds strike root much more readily than others. The hard-wooded roses, including the entire family of the Hardy June roses, and especially the mosses, are increased with difficulty by cuttings. The Hybrid Perpetuals root more readily, while the tender ever-blooming roses, including the Teas, Noisettes and Chinas, are propagated in this way with great ease.

Cuttings may be made from the ripened or the half ripened wood. In the case of roses, and of nearly all ligneous plants, cuttings made from the ripe wood do not require bottom-heat, and are more likely to be injured than benefited by it. On the other hand, cuttings of the soft or unripe wood strike root with more quickness and certainty if stimulated by the application of a gentle heat from below.

In propagating roses from the ripe wood,

the cuttings must be made early in autumn from wood of the same season's growth. The chances of success will be increased if they are taken off close to the old wood with what is called a "heel," that is, with a very small portion of the old wood attached. The heel should be trimmed smooth with a sharp knife; the cuttings may be six or eight inches long. Strip off any leaves which may still adhere to them and plant them in rows at a depth of about five inches in a cold frame. The soil should be very light and thoroughly drained; water, to settle it around the cuttings. On the approach of frost they should be protected with boards and mats, giving them air on fine days during winter. In the spring a white cellular growth called a "callus" will have formed at the heel of each cutting, which, if the process succeeds, will soon emit roots and become a plant.

Propagation in summer from the half

ripe wood is a better and less uncertain method. In June and July, immediately after the blossoms wither and before the rose has begun its second growth, cuttings should be made of the flower stems. Each cutting may contain two or three buds. The lower leaves must be taken off, but the upper leaves must remain. Trim off the stem smoothly with a sharp knife below the lowest bud and as near to it as possible without injuring it.

If the cuttings are taken off with a heel, as above described, the chance of success will be greater. They may now be inserted at the depth of an inch and a half around the edge of a small pot filled one-third with broken crocks and the remainder with a mixture of loam, leaf-mould and sharp sand. Now place them in a frame on the shady side of a hedge or fence, water them to settle the soil, and cover them closely with glass. Sprinkle them lightly every morning and night, and when moisture gathers on the inner surface of the glass, turn it over, placing the dry side inward. If mould or decay attacks the cuttings, wedge up the glass a little to give them air. In a week or two they will form a callus, after which they may be removed to a gentle hot-bed, kept moderately close and shaded from the direct sun. Here they will quickly strike root and may be potted off singly into small pots.

Another mode of propagation, and a favorite one with nurserymen, is practised early in the spring. In this case, the cuttings are made from forced roses, or roses grown on green-house rafters. Some propagators prefer the wood in a very soft state, cutting it even before the flowers are expanded. The cuttings may be placed in pots, as in the former case, or in shallow boxes or earthen pans, thoroughly drained with broken crocks. The soil should be shallow enough to allow the heel of the cutting to touch the crocks. They are to be placed at once on a moderate bottom heat, covered closely with glass and shaded from the direct rays of the noon tide sun. Their subsequent treatment is similar to that of sum-

mer cuttings. They must be closely watched, and those that show signs of mould or decay, at once removed.

After the callus is formed they will bear more air. When rooted they should be potted into small pots and placed on a hot-bed of which the heat is on the decline. Towards the end of May, when the earth is warmed by the sun, they may be turned out of the pots into the open ground where they will soon make strong plants.

Many American nurserymen strike rose-cuttings in spring, in pure sand over a hot-bed or a tank of hot water in the close air of the propagating house. They must be potted immediately on rooting, as the sand supplies them with nothing to subsist on. We have seen many hundreds rooted in this way with scarcely a single failure.

The management of difficult cuttings requires a certain tact only to be gained by practise and observation, and the gardener who succeeds in rooting a pot of cuttings of the Moss rose, has some reason to be proud of his success.

BUDDING.

This mode of propagation is attended with great advantages and great evils. A new or rare rose may be increased by it more rapidly and surely than by any other means; while roses of feeble growth on their own roots will often grow and bloom vigorously when budded on a strong and congenial stock. On the other hand, the very existence of a budded rose is, in our severe climate, precarious. A hard winter may kill it down to the point of inoculation, and it is then lost past recovery; whereas, a rose on its own roots may be killed to the level of the earth, and yet throw up vigorous shoots in the spring. Moreover, a budded rose requires more attention than the cultivator is always willing to bestow on it. An ill-informed or careless amateur will suffer shoots to grow from the roots or stem of the stock; and, as these are always vigorous, they engross all the nourishment and leave the budded rose to dwindle or die, while its disappointed owner, ignorant of

the true condition of things, often congratulates himself on the prosperous growth of his plant. At length he is undecieved by the opening of the buds and the appearance of a host of insignificant single roses in the place of the Giant of Battles or General Jacqueminot.

Budding, however, cannot be dispensed with, since, in losing it, we should lose the most effectual means of increasing and distributing the choicest roses. The process consists in implanting, as it were, an undeveloped leaf-bud of the variety we wish to increase, in the bark and wood of some other species of rose. The latter is called the stock, and it should be of a hardy and vigorous nature. Two conditions are essential to the process. The first is that the bark of the stock will "slip," in other words, separate freely from the wood. The second is, that the rose to be increased should be furnished with young and sound leaf-buds in a dormant state. These conditions are best answered in summer and early autumn, from the first of July to the middle of September. During the whole of this period, the sap being in active motion, the bark separates freely from the wood; while there is always a supply of plump and healthy buds on shoots of the same year's growth. The only implement necessary is a budding-knife. The operator should also provide himself with strings of bass matting, moistened to make them pliant. Instead of the bass, cotton wicking is occasionally used. Cut well ripened shoots of the variety to be increased, provided with plump and healthy buds. In order to prevent exhaustion by evaporation from the surface of the leaves, these should be at once cut off, leaving, however, about half an inch of the leaf-stalk still attached to the stem. Insert the knife in the bark of the stem half an inch above a bud, and then pass it smoothly downward to the distance of half an inch below the bud, thus removing the latter with a strip of bark attached. A small portion of the wood will also adhere. This may be removed, though this is not necessary, and is attended with

some little risk of pulling out with it the eye or vital part of the bud. Now place the bud between the lips while you take the next step of the process. This consists in cutting a vertical slit in the bark of the stock. This done, cut a transverse slit across the top of the vertical one. Both should be quite through the bark to the wood below; then, with the flat handle of the budding-knife, raise the corners of the bark and disengage it from the wood sufficiently to allow of the bud being slipped smoothly into the crevice between the wood and bark of the stock. Next, apply the edge of the knife to the protruding end of the bark attached to the bud and cut it smoothly off immediately over the transverse slit in the bark of the stock. The bud is now adjusted accurately in its place, the overlapping bark closing neatly around it. Now tie it above and below pretty firmly with repeated turns of the bass matting, and the work is done. It must be remembered that to be well done it must be quickly done, and it is better to insert the bud on the north or shady side of the stock.

The bud and the stock will soon begin to grow together. After a week or two they should be examined and the tie loosened. If the bud is put in early in the season it may be made to grow almost immediately, by cutting off the ends of the growing shoots of the stock, and thus forcing sap towards the bud. As the bud grows the stock should be still further shortened and all the shoots growing below the bud should be removed altogether.

Budded stocks require in this country, at least when the buds are dormant, a protection against the winter. Where there are but few, oiled paper or something of a similar nature may be tied over the bud as a shelter from snow, rain and sun; but when there are many this is impossible, and the stocks may be taken up and "heeled" close together in a dry soil under a shelter of boards and mats. "Heeling" is merely a temporary planting.

In the following spring, the stocks may

be cut off to within an inch of the bud and then planted where they are to remain. When the bud is inserted near the ground,—which in our climate should always be done—the stock should be planted in such a manner that the bud is a little below the level of the earth. To this end the stock should be set in a slanting position in the hole dug for it, the bud, of course, being uppermost, and about an inch below the level of the edge of the hole; then the hole should be partially filled in. When the bud has grown out to the height of six or eight inches, the hole may be filled altogether. No part of the stock will now be seen above the earth. By this means the point of junction of the stock and the bud is protected from the cold of winter and the heat of summer, and the rose will live longer and thrive better than where the stock is exposed. In many cases the rose will throw out roots of its own above its junction with the stock, and thus become in time a self-rooted plant.

There are two kinds of stocks in common use at the present time for out door roses. One is the Dog rose, a variety growing wild in various parts of Europe; the other is the Manetti rose, a seedling raised by the Italian cultivator, whose name it bears. There can be no doubt that, of the two, the Manetti is by far the better for this climate. It is very vigorous, very hardy, easily increased by layers or cuttings of the ripe wood, and free from the vicious habit of the Dog rose of throwing out long underground suckers. We by no means mean to say that it will not throw up an abundance of shoots from the roots if allowed to do so, but these shoots are easily distinguished by a practiced eye from those of the budded rose. They may be known at a glance by the peculiar reddish tint of the stem, and by the shape and the deep glossy hue of the leaves. They must be removed as soon as seen, not by cutting them off, but by tearing them off under ground, either by hand if possible, or with the help of a forked stick, which, pressed strongly into the earth, slips them off at their junction with

the root. In this manner all the dormant buds ready to grow about their bases are effectually removed.

It cannot be denied that many kinds of roses, budded low on the Manetti stock, will grow with a vigor, and bloom with a splendor which they do not reach on their own roots, and which will often repay the additional labor which they exact. We once planted in the manner above described, a strong Manetti stock containing a single bud of the hybrid perpetual rose—Triomphe de l'Exposition. In the September following, it had thrown up a stem with several branches, the central shoot rising to the height of six feet and a half, and bearing on its top the largest and finest blossom we have ever seen of that superb variety. Some roses, however, will not grow well on the Manetti. Others, again, can scarcely be grown with advantage in any other way, refusing to strike root from layers, and often failing when the attempt is made to root them from cuttings, even of the soft wood. Some, even when rooted, remain feeble and dwarfish plants, while, if a bud from them is implanted in a good Manetti stock, it would grow to a vigorous bush in one season. To sum up, we would say, that, for the amateur, nine roses out of ten are better on their own roots, while there are a few which can only be grown successfully budded on a good stock.

GRAFTING.

All the evil that can be spoken of budded roses is doubly true of grafted roses; while the advantages which the former can claim are possessed in a less degree by the latter. The reason is, simply, that in the case of the budded rose, the junction between the stock and foreign variety is commonly more perfect than in the case of the grafted rose. Indeed it would not be worth while to graft roses at all, were it not for the fact that grafting can be practised at times when budding is impossible. This is because it is indispensable in budding that the sap of the stock should be in full motion, whereas in grafting it may be at rest.

There are innumerable modes of grafting, but for the rose the simplest form of what is called "whip grafting" is perhaps the best. In the end of winter or at the beginning of spring, take young, well rooted plants of the Manetti stock, having stems not much larger than a quill. Beginning very near the root, shave off with a sharp knife a slip of the bark with a little of the wood, to the length of something more than an inch; then shave down the lower end of the graft until it fits accurately the part of the stock whence the bark and wood have been pared off. The essential point is that the inner bark of the graft should be in contact with the inner bark of the stock. When the two are fitted, bind them around with strings of wet bass matting; now, plant the stock in a pot, setting it so deeply that its point of junction with the graft is completely covered with soil. Place the pots thus prepared on a gentle hot-bed and cover them closely. When the shoots from the graft are well grown out, give them air by degrees to harden them.

A better way is to pot the stocks early in autumn, so that they may become well established. In this case, it will be necessary to cover the junction of the stock and graft with grafting-wax or clay, in such a manner as to exclude all air; then plunge

the pots in old tan over a gentle hot-bed so deeply that the grafted part is completely covered, the ends only of the grafts being visible. This keeps them in an equable heat and moisture. The subsequent treatment is the same as in the former case. As the stock has acquired a hold on the earth of the pot, or is, as the gardeners express it, "established," the graft will grow much more quickly, and make a strong blooming plant the same season.

In all grafting, whether of roses or other woody plants, it is necessary that the buds of the graft should be completely dormant. In the stock, on the other hand, a slight and partial awakening of the vital action at the time the graft is put on, seems rather beneficial than injurious.

SUCKERS.

In this mode of increasing roses, nature, rather than the cultivator, may be said to do the work of propagation. Many sorts of roses throw out spontaneously long underground stems, from which roots soon issue, and which soon throw up an abundance of shoots above ground. When these suckers, as they are called, are separated from the parent and planted apart, they make a strong growth, but rarely form plants so symmetrical as those raised from cuttings or layers.

LEVEN'S HALL, LANCASHIRE.

This is the seat of the Hon. Mrs. Howard, about five miles south of Kendall,—a venerable mansion in the Elizabethan style, buried among lofty trees. The Park, through which the river Kent runs, abounds in majestic trees, is of considerable size, well stocked with deer, and more sylvan in its character, except perhaps Gowbarrow Park, or Ullswater, than any we have yet seen. In fact, I constantly expected to come upon the "Melancholy Jacques" in some of these woodland glades overhung with mossy rocks and luxuriant ferns.

Among other fine features of the park, is a superb avenue of Beeches, I should say

quite a mile long, and three or four centuries old. The gardens, however, form the greatest attraction, being laid out in the old French style, and are, perhaps, unique examples of this old topiary work in the kingdom. They were laid out by Mr. Beaumont, gardener to James II, and the correspondence between Beaumont and the then gardener of the place is still preserved in the Hall, and is a very curious specimen of the extraordinary spelling of that period. Trim alleys, bowling greens and wildernesses, of Beech abound, the hedges being about 12 feet high, and the arches 18, all of Beech, but clipt as close and smooth as

a wall. The bowling green is 80 feet square, surrounded on the four sides by Beech walls about the same height as the alleys, (12 feet) with a single arch 18 feet high in centre of each square or side.

The grass in the bowling green, as well as in the alleys, was laid 250 years ago on slate slabs or pavement 6 inches below the surface,—which pavement was laid with rule and compass, so as to be as level as a Billiard table—over this was put the sod. Nothing could be more level or smoother; but it abounded (as all English lawns I have yet seen do) with daisy and plantain.

From the bowling green through the alleys, 15 feet wide,—you walk over this sod—passing through a succession of these beautifully formed and closely clipped arches to the Topiary garden, where you suddenly come upon a succession of Yew, Golden and Silver Holly and Box, cut into the most extraordinary and fantastic shapes. There being, for instance, half dozen Box trees cut into Queen Elizabeth and her maids of honor.

One tree is cut into an arbor—sufficiently large to hold half a dozen persons—with two smaller arbors cut in the rear of the larger one, so ingeniously and artfully concealed, that persons sitting there may be entirely out of sight, and yet within a few inches of the other seats. This, it is supposed, was intended for the occasional occupation of spies, either in love or war.

There are two golden holies cut into the shape of goblets 20 feet high; many in the shape of gigantic vases with handles. One silver holly, a perfect pillar 30 feet high; this has to be clipped by a staging.

The wonder is, that these trees should so well preserve their shape, character, closeness and verdure, after having been cut for over two centuries. It requires five men six weeks to go over them. The gardener looks almost as old as the trees. There was one old fellow clipping the ruff of Queen Elizabeth, who had annually cut it for 50 years. Several more had been 30 and 40 years in the garden. The head

gardener, who had just died, had been gardener 70 years; though for the last 20 years he had not done much, they said, but walk about trimming a little here and there. Every clipper is accompanied by a man with a stiff broom or brush to sweep off the cuttings.

As wonderful as the gardens are, they are not more extraordinary than the old Hall, which contains some exquisite specimens of elaborately carved work. Christabel says of it:

"The chambers, carved so curiously;
"Carved with figures strange and sweet;
"All made out of the carver's brain."

From a paved court you enter into a fine old servant's hall, in oak, with an immense fire place 6 or 8 feet wide, and "1582" over it; long tables with benches round the four sides, now used by the servants and retainers as of yore; above this a regular Baronial hall, hung in old stamped leather, the walls covered with armor, boar spears, hunting saddles; an oak floor, with a square of Turkey carpet; the windows, (square bays) in small diamond and hexagon figures set in delicate lead lines and exquisitely emblazoned.

One corner of the great hall, under the grand stairway was a chapel; but on occasions of State, a large tapestried curtain was dropped over this, converting the hall into a great banqueting room.

This opened by an ascent of three steps into the drawing room, so beautifully carved in wood, that, at present price of labor, it is estimated the same work would now cost £3,000. Exquisite square bay windows, with the most delicate figures and settings, emblazoned like the hall, with armorial bearings, tapestried chairs, tables, etc. One of the deep bays (almost a room in itself) looking out on the quaint garden, the other on the Park; this also hung in embossed and gilded leather. From this, by three steps again, you ascend into the Library, equally wonderful from its carvings in oak and hangings in leather.

An upper hall is hung in superb tapestry,

representing a story from an Italian poem. Several concealed rooms lead from this to corridors, upon which the chambers open. One, the State room, being more gorgeous than the rest; the color of the hangings being scarlet and gold embossed leather. The dining room, morning room, and little library being more or less of the same quaint style, and every thing being as well preserved as in the time of King James. It only requires a few Lords and ladies in the costume of that period to make the delusion complete.

There is a very extraordinary custom peculiar to this place, called the feast of the

radishes, on the 12th of May. The Mayor and Corporation of Kendall, as well as all strangers, and the people of the neighborhood for miles around, assemble in the court yard, and drink "mocco," and eat radishes and bread and butter. The "mocco" is an ale 20 years old, so strong and powerful, that a single pint will quite overpower any body.

The first time one drinks mocco, he must stand on one foot and drink—"success to Levens Hall as long as the river Kent runs."

H. W. S.

GRAPE CUTTINGS FROM HISTORY.—No. V.

BY JOHN S. REID.

WHEN we examine the map of Europe, and study the geographical situation and geological formation we will not be surprised at the extensive range which the grape vine enjoys on that Continent.

Commencing at the parallel of 36° North on longitude 26° East from Greenwich, and sweeping along the northern shores of the Mediterranean to the Straits of Gibraltar—thence rounding up the western shore of Portugal, we can trace the cultivation of the wine grape to latitude 49° north in France, and to latitude 50° north in Germany, being several degrees farther north than it is found in Asia, where 44° is its northern limit; it being said that the temperature of Pekin, in China, in latitude 40° is as cold in winter, as it is at St. Petersburg, in Europe, whose latitude is about 60°.

Again, the Western shores of Europe are much warmer than the Eastern, caused chiefly by the difference between the ruling winds. In the West and South-west, the Equatorial current of the atmosphere deflected from its normal course is the predominant wind, and this current continues eastward as far as St. Petersburg; so that

when we compare the main temperature of the several countries on that continent, with some on Asia, Africa, and America, we will become satisfied, why the wine grape grows and flourishes there, and not with us.

For instance, England enjoys in latitude 52° north, a mean temperature in Winter of 39° against that of 61° for Summer.

France in latitude 47° north, has in Winter 44° against 71° in Summer.

Spain and Portugal each has in Winter 46° against 73°. Germany 38° against 65° in Summer. Egypt has 50° in Winter against 75° in Summer; whilst Canada has a temperature in Winter of 21° against 71° in Summer, and the middle portion of the United States has 27° in Winter against 73° in Summer.

Now if we take Spain and Portugal as the standard, where the wine grape flourishes in all its perfection, then, we have a variation only of 27° from Winter to Summer, whilst in America we have a variation of 46°,—a change so great, that the *vitis vinifera* cannot stand; and hence the failure to cultivate this species successfully with us.

But if we want in Europe, a country where with proper cultivation the wine grape will grow and yield in abundance its luscious nectar, let us take the northern and western shores of the great sea, along the islands, and volcanic slopes of Italy, where the ancients used to obtain the rich Falernian and Setinum wines. Taking the Campania Felix of ancient Rome, as the cradle, or nursery of the Italian wine grape, which may be placed in latitude 36° , we here find the most luscious, as well as the most delicate of wines; for no wine has ever acquired a greater or more extensive celebrity than the Falernian, or more truly merited the name of immortal.

Of all of the ancient wines it is best known, and its fame will descend through all future ages, so long as the great masters of the Lyre who have so gloriously sang its praises, are esteemed and admired. Yet its name only lives in song, the famous vineyards of Sinuessa of Massicum and Methymna are now no more; the "juga" and the "fumarium" are now no longer in use; the vines now ramble on the ground, or climb the smaller trees for support; whilst in the manufacture and manipulation of the wine, less care and pains are taken than is found among the Arabs.

But it is to the palmy days of Caesar and Augustus, that we look for the production of wine, when Virgil, and Horace, and Martial, and Juvenal and other great masters of song flourished. When Pliny loved to rise with the morning, and shake the dew from the purple clusters which crowned the fields and hills of Massicus; or wander in the evening sun-set along the Falernian plain, and "from Arvisian cups rich nectar drink, and sweet Methymna to Falernus yield;" these were the days of the glory of the Vine, when her juice was esteemed as fit for the entertainment of the gods; and kings and warriors loved to sing its praise.

But let us examine a little the geology of Europe and learn how this formation inures to the growth and benefit of the wine grape.

The Ural mountains serve as a boundary between Europe and Asia; the great plane of the continent occupies its eastern part, commencing at the 26° meridian east from Greenwich; west of this, the plane narrows to the south by the Carpathian mountains.

To the north lies the system called the Scandinavian mountains—and to the south what may be termed the European.

The deductions of geological science, respecting the formation of Europe, seem to be admitted, that the Scandinavian range belong to the first rank as to age as well as extent; and that they consist almost of primary rocks, whilst on their flanks lie horizontal and undisturbed the oldest deposited strata, containing in their fossils, proofs of nature's age, subsequent to their upheaval.

During the formation of the Tertiary strata, nearly three-fourths of Europe were under water, and continued so until the rising of the Pyrenees made her a continent; when a great physical change occurred, rising with them the chalk and earlier tertiary formations, consisting of beds of clay, sand, gravel, marls and limestones, containing organic remains.

The Appenines which may be termed a branch of the Alps, constitute the central ridge of the Italian peninsula, extending in a chain of nearly six hundred miles, the highest point of which is Monte Corno, in lat. 42° north. Here the prevalent and characteristic rock is a primitive limestone with fossils; whilst the Euganean hills near Padua; the Albanian hills near Rome; Vesuvius at Naples, and indeed the whole Italian peninsula contain numerous groups of igneous rocks of volcanic origin, such as those of Radicofane, Viterbo, and the Campagna de Roma.

But Europe enjoys the advantage of lying almost within the temperate zone, being in appearance a large peninsula with numerous sub-peninsulas, forming a mixture of sea and land, which tend to diffuse over the latter, the agreeable temperature of the Ocean, so that the heat and moisture of the

Equatorial regions are continually flowing into the atmosphere of that continent.

The peninsulas of Spain, Italy, and Greece, all feel the effect of this Equatorial current, and have little or no rain in Summer or Autumn, which makes them favorable to the growth and fructification of the Vine, the Olive and Orange.

But the *Vitis Vinifera* flourishes most on the south-western coast of that delightful country to which, from its extraordinary fertility and balmy climate, the name of Campania Felix was given; and from this district chiefly, the ancient Romans obtained those wines so celebrated and so highly valued, although at the present day it is a matter of no small difficulty to designate any particular vineyard, or spot, where these world-renowned wines were produced, for the sword of the invader has ploughed up their vineyards as with a plough-share, and the foot of the barbarians has trodden down their wine-presses, that desolation may be seen stamped on the face of their land.

Some of the ancient writers speak of Falernum and Massicum as hills; while others denominate them as fields, or planes; the better opinion is that Massicus was the name of the hills rising from the Falernian plains, and that the choicest vintages grew on the southern slopes of the adjacent mountains, the Rocca di Men-dragone being supposed by many to be the ancient Sinuessa.

The soil of these vineyards was chiefly calcareous rocks, mixed with the pomace and broken lava of the early volcanic hills, which is said to produce the best wines.

A sandy soil produces a fine pure wine; gravelly and stony soil a delicate wine; rotten and broken rocks, a fumy generous wine of a superior quality. The most advantageous position for a vineyard is that of a gentle southern slope, or side of a hill inclining to the east and south, on which the rays of the sun continue the longest, and hills in the neighborhoods of large rivers, lakes and the ocean ought to be preferred.

The Massicum and Falernian vines were trained on small poles and frames, not unlike our trellis, called "juga" whilst in some of the vineyards they were planted along with small trees on which they were allowed to run; but with the culture of the grape, so was the quality of the wine. Augustus, and the connoisseurs of his time, gave the preference to the Setine wine, grown in the vineyards above the Appi Forum, over that of the Cecuban which came from Aurycla.

The Setine is reported to be a light delicate wine of choice quality, whilst the Cecuban was the favorite wine of Horace, which required age to ripen, it being a strong and generous wine. The Falernian is supposed to resemble our Sherry and Madeira.

There is another class of wines of good quality, obtained from the island of Sicily, the best of which is from the Province of Mascoli, grown on Etna; and the red Mus-dine of Syracuse—Meassina and Marsala furnish the chief wines for exportation—not unlike the second class Madeira, but with greater body, whilst the wine of Hugata have a strong flavor of violetta, and is very agreeable.

The Lipari Islands produce some wine of the ordinary quality. The Malmsey grown on the volcano of Stromboli, is very excellent, and held in much esteem.

Elba, once the temporary prison of the great Napoleon, produces a red wine of superior quality; one hundred vines will make from twelve to fourteen barrels, which improves with age; some of this kind has been known to be one hundred and fifty years old.

All along the southern slope of the Appenines the vine flourishes and produces most abundant crops, so much so, that our choicest grapes sink into insignificance before them, both in yield and quality. Here, the vines are planted chiefly terrace fashion, but small attention is given to the pruning, and assorting of the grapes, and, consequently, the wines neither have the strength

nor aroma, which otherwise they would have.

We have, perhaps, taken up more space in the present "Cuttings" than is proper, but we found that we were approaching, if not on sacred, classic ground, where history details more fully the cultivation of the vine, and the manufacture of wine; and all along the range of the mountain slopes of this glorious peninsula, to the eye of the traveler, the scene is but one vineyard; but Tuscany, Naples, and Sicily takes the first rank, and their wines command the highest prices, and have ever done, in the markets of the world.

HOME CUTTINGS.

We feel much obliged to "Reuben" for his criticism on the June number, and notice of our worthy self; but thought that "our irony" in regard to the obtaining "a new seedling" would have been understood. We have been much victimized in the grape line, and feel a little wolfish, when we read of another "new grape" having been produced, as a hybrid, between "Hamburg and Peter Funk," superior to anything known to the trade—price, single eyes, extra quality, ready for bearing, \$5!!

I planted, last season, in one line, five feet apart each, one Delaware, one Adirondac, one Iona,—the Delaware and Iona cost me \$1.50 each; the Adirondac \$3. They were all covered during the Winter, and opened or uncovered in Spring at the same time; each one was injured more or less by the frost of May last,—I think about equally.

The Delaware has recovered fully; the Iona has been attacked slightly with mildew, and looks a little sickly; the Adirondac mildewed badly, and I fear will not recover. So much for the power of endurance and recovery of these three much lauded grape vines.

This season, each one is three years old and should have made wood for fruit, for the next year:—the Delaware will, the Iona may, but I fear the Adirondac will not. When I covered them in the fall, they seemed equal in size and strength, and so appeared in the spring.

My Catawba crop is a complete failure. What with the mildew and rot, they will not be worth the expense of gathering.

Fayette County, Ind.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

THE GARDENER'S MONTHLY AND THE HORTICULTURIST. — SPECIAL NOTICE TO ADVERTISERS.—Among the large list of advertisers who have seen fit to bestow their patronage on us for the year now closing, three object to our prices, on the ground that the "*Gardener's Monthly*" do the same business for half the money. If all will turn to our January number, 1865, they will find a notice calling attention to the fact, that our charges per page

for advertising are now and always have been considerably higher than the *Gardener's Monthly* or *Hovey's Magazine*. In adjusting our prices, we have not been governed by prices charged in other cities, but have made them such as will pay us a fair, reasonable profit for the services we render. Now, so far as the *Gardener's Monthly* is concerned, we believe it to be a first rate advertising medium: we advertise in it, and the result is profit.

It is well edited, and we think so much of it as to have it bound in Turkey morocco, and give it a prominent place in our library. It has, so far as we know, a handsome circulation. In our office, we place it directly alongside the *HORTICULTURIST*, and have obtained for it this year, nearly 300 subscribers, and next year we hope to get at least 1,000. Our names are on it as New York Publishers, and we receive for it both subscriptions and advertisements, and attend to this business promptly. We advise all our customers to advertise with the *Gardener's Monthly*.

Now for ourselves: THE HORTICULTURIST is an old, well known, popular and profitable publication. It pays a handsome income which increases yearly,—this year larger than ever before. Its circulation is large and principally among the wealthy men of our country,—men who have fine farms and country seats, and money to spend.

Our advertising patronage has been liberal, of the very best prompt paying class—a class that our readers can do business with safely;—advertisers who have through adverse and prosperous times, persistently spread their business before the public, have done it for years and keep doing it, have grown rich by it, and follow it up with zeal that characterizes profitable investments. Advertising in the *HORTICULTURIST*, pays, pays well, else why do we find nearly every advertiser of 10 and 15 years ago in our columns this month, agh ears ago in season from the time they ~~read~~ for every Messrs. John Saul, of W⁺ J^o commenced.—B. K. Bliss, of Springfield, D. C., & Son, of Lockport, Mass., E. Moody Barry, of Rochester, N^o N. Y., Ellwanger & of this city, Prince & Co., Hitchings & Co., L. I., D. Landreth & Co., of Flushing, R. Buist, Philadelphia Son, of Philadelphia, Plymouth, Mass., at Memphis, B. M. Watson, of Flushing, have and Messrs. Parsons & Co. advertisers from an early period of our history; ums 10 years ago in business were in our day; they are bulant, and they are there to business men; they do busi-

ness with us because it pays them, and every new enterprising establishment in their trade follows their example. Our charges for advertising are uniform to all. For each insertion Thirty Dollars per page, Fifteen Dollars per column, Fifteen cents per line; each column containing 100 lines. We expect to maintain these prices for 1866, but with a general advance in prices we intend to advance. The *Gardener's Monthly* charges about half of our prices, and considering the width of their pages, less than half; their pages being wider than ours, they give more reading matter in the course of the year. Their subscription price is Two dollars per annum, ours Two dollars and fifty cents, both together, Four dollars. If they have a larger circulation than we have, we are glad of it; the field of usefulness before them they cannot fill, nor we either, nor both of us together.

ANOTHER monthly issue of this Magazine will close the twentieth volume, and with it the term of subscription of most of our readers, all of whom, we hope, will renew early for the coming volume. The year now closing has been the most prosperous and profitable one in our history. The volume, one that has no superior, the best talent in the country has been employed on its pages, liberally paid for, and indicates success.

The Twenty-first Volume begins with the January number for 1866. In it we propose to embrace many improvements, and make it worthy of increased attention. We aim at a high standard and shall gradually approach it; all that will help to make this Magazine first rate in all departments we intend to take advantage of.

We should be glad to have our subscribers renew early, and induce as many as possible to subscribe with them, thus extending our circulation liberally into all parts of the country. New subscribers for 1866, coming in this month, will receive the numbers for November and December free. Our subscription price for 1866 will be Two

Dollars and Fifty cents. Those who wish back volumes, can have 1865, bound and post-paid, with numbers for 1866 for \$4 50; or 1864 and 1865, bound and post-paid, with the numbers for 1866 for \$6 00. The three volumes containing nearly 1,200 royal octavo pages of reading matter liberally illustrated.

FOR SALE CHEAP. — Twenty-five Volumes of the "American Stock Journal for 1863," devoted to improvement of Domestic Animals, 200 quarto pages, handsomely bound and post-paid to any address for 75 cents, just the cost of binding.—

GEO. E. & F. W. WOODWARD,
37 Park Row, New York.

IONA GRAPES.—We have received from Dr. C. W. Grant, some very fine specimens of this truly choice grape; a grape that promises to be best of all our native grapes so far as known. We are very much pleased with the Iona grape this year, and hope time will prove it to be first class in all respects.

MOORE'S HYBRID GRAPES.—We have received from Messrs. Moore Brothers, of Rochester, New York, specimens of four varieties of their new hybrid grapes, designated under the following names: "Diana Hamburg," "Clover Street Red," "Clover Street Black," and "Improved Clinton." The first three mentioned are from seed of the Diana fertilized by Black Hamburg, the last from seed of the Clinton, by Black Hamburg.

The Diana Hamburg, the best grape of the four kinds sent, bears more evidence, in the flavor and firm fleshy character of its berries, of foreign parentage than either of the others. The Clover Street Black and Improved Clinton are both very promising varieties, and are said to be early in ripening. The Clover Street Red is an excellent grape, resembling the Diana in flavor, and ripens late.

These vines are said to be perfectly hardy, having been fully exposed on a trellis

the past winter. If, in addition, they are found as capable of resisting mildew as our well known varieties, they will prove a valuable addition to our list of hardy grapes.

AUCTION SALE OF IONA GRAPE VINES and other leading varieties.

Messrs. Parsons & Co., of Flushing, N.Y., announce in our advertising column, a public sale of Iona Vines, to take place in November (see advertisement). This enterprising firm, who propagate grape vines of best qualities, on the largest scale, are enabled to make this sale the most attractive one of this kind ever held in the country.

ITHACA, N. Y., September 8, 1863.

I write from the, no longer to be secluded, end of Cayuga Lake, the loveliest village in the State, with its magnificent trees, neat fences, shrubbery, fruit and vegetable gardens; comfortable and roomy houses, with gable ends to the street, where no man envies his neighbor who lives in a yellow or brown house, for they are all white; where every building is well kept and in good repair, except one, doubtless in respect to the old adage, that—there is no rule without an exception—with its well-to-do inhabitants, every man having employment and such pay as enables him to make a good appearance; where there are no beggars, indeed no poor; where ostentation is unknown, and where the millionaire cannot be distinguished from his neighbor by his dress or style. Indeed, here seems to be embodied the poetical idea of the equality and simplicity of the golden age; every man sitting down under his own vine and fig tree, with none to make him afraid.

This place has been overlooked, because not on the direct route of travel, and the

*One of these is known as Judge Braum's riding vine, a willow twig stuck down forty years since, "to see if it would grow," after being used twelve days to dry, situated over the mountains, from Kingston, on the Hudson.

ands have heard of Auburn and Elmira, about equal distances north and south, who know but little of Ithaca. It is, however, destined to make a greater figure on the map, and to be oftener heard of in the future. The world moves, and in its revolution Ithaca assumes an unwonted prominence; not from any sudden upheaval of its lower strata, or from any borings into its depths. Like its ancient namesake, it is still the abode of wisdom, and the acts of a single individual are destined to give it a position, which "all the modern improvements" could scarcely effect.

One of its citizens, who many years ago engaged in constructing Telegraph lines, invented a plough to lay the insulated wire in lead pipes under the ground; and finally, when that failed, adopted the present method of elevating it on poles, has had the sagacity to retain his Telegraph Stock, which, in many instances was forced upon him as part payment for its construction, until it has produced him immense wealth, and this he is diffusing with a liberal hand and admirable judgment during his lifetime for the benefit of his race, already realizing that it is more blessed to give than to receive. Unlike other rich men, he has no ambition to "make his son the richest man in America," nor to found an asylum after his death, to perpetuate his memory. His munificence is dispensed with a liberality that will build a monument while he lives, that shall "send lightning, that they may go and say unto thee, here we are unto all future time."—Job, 38, 35. I allude merely to the sums contributed quietly by this people's almoner to the deserving poor; to the neat structures built and repaired, to be occupied, rent free, by the widows and orphans; to the school-rooms fitted up and handed over to the deserving female teacher; to the aid given to the Sanitary Commission, during the rebellion, and other acts of liberality, though all these are to be heard of and seen here, and may justly make Ithaca proud of her philanthropist, Ezra Cornell.

This, however, is but a drop in the bucket. He has erected at his own expense, and at a cost of one hundred thousand dollars, a fire-proof building for a free library, reading and lecture rooms, besides rooms for the Agricultural Society, Farmers' Club, Firemen's Association, drill-rooms and armory for the militia, and has appropriated a large sum for the purchase of books, and set aside another sum, the interest of which is to be applied for all time to the purchase of new publications and periodicals for the free library. Another institution is also in the course of construction, to cost an equal sum with the Cornell Library, to be devoted to the education and qualification of nurses for the sick, and a Hydropathic Institute, a joint stock company, of which Mr. Cornell is the principal proprietor. But the crowning act of benevolence, of which the former may be considered but the stepping-stones to a more munificent donation, for the benefit of future generations, is the founding of the Cornell University, under the act of Congress of July 2d, 1862, and of the Legislature of New York, of April 27th, 1865.

It is now a matter of history, that Ezra Cornell has placed at the disposal of the Trustees of the Cornell University, the princely sum of half a million of dollars for the establishment of a seminary of learning of the highest grade known in the world, to be located at Ithaca. In addition to which he proposes to give two hundred acres of land to found an Agricultural College, forming a part of the Cornell University, which is "to teach such branches of learning as are related to agriculture and the mechanic arts, including military tactics, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

By the act of Legislature, this Institution receives the land grant of Congress to the State of New York, nine hundred and ninety thousand acres, the proceeds of the sale thereof to be invested by the State of New York, and the interest (only to be

paid to the Trustees for the annual support and maintenance of said Cornell University.

We already have our fine schools and fine academies, now we are to have free Colleges and free Universities. The Cornell University proposes annually to receive one student from each Assembly district of the State, to be selected by the Board of Education of each County and City, in consideration of superior ability as the best scholar from each academy or public school, to whom they will give instructions in any or all the prescribed branches in any department, free of any tuition fee or of any incidental charges. And will also be open to admission thereto, at the lowest rates of expense, to all others, without distinction as to rank, class, previous occupation, or locality. The Board of Trustees met at this place on 5th inst., organized, and have taken the necessary steps to fulfill the duties of putting the Institution into operation at the earliest practicable period. With a large cash fund, and the energy of its founder, who is President of the Board, this will not long be delayed.

W. A. W.

SOUTH AMBOY, N. J., Oct. 2d, 1865.

EDITORS OF HORTICULTURIST:

Dear Sirs,—In the September number, there is an article on the Gladiolus, by E. Ferrand. Mr. Rand tells us that the bulbets must be put aside for eighteen months, and that then not one will fail to come up; but if planted the next spring after gathering, "not one in a hundred will come up."

If Mr. Ferrand would give his experience on this point, he would confer a favor.

Yours, truly,

G. S.

BOOKS, &c., RECEIVED.

ORCHID CULTURE.—Messrs. J. E. Tilton & Co. have in press a Manual of Orchid Culture, by Edward Sprague Rand, Jr., author of Flowers for Parlor and Garden

etc.; beautifully illustrated with colored plates and wood cuts. This volume is a complete guide to the cultivation of orchaceous plants, giving every direction necessary for the successful cultivation of every known species and variety of both terrestrial and epiphytal orchids. The work is divided into two parts: the first cultural, containing sixteen chapters upon culture, temperature, construction of houses, treatment of newly imported plants, potting, propagation, ventilation, watering, the flowering season and cool treatment. The second, a complete list of species, with particular directions for the treatment of those requiring special culture. This volume, which has long been needed, will supply every want, and reviews orchid culture from its earliest days down to the present time. It will prove invaluable both to the gardener and amateur.

SEVENTH ANNUAL REPORT of the CHAMBER OF COMMERCE of the STATE of NEW YORK, for the year 1864-65.

SORGHO SUGAR GROWER.—The culture and manufacture of Sugar and Syrup from the Chinese and African canes, published by Webster & Co., 186 South Water-street, Chicago. Sent free to any address.

DREER'S DESCRIPTIVE CATALOGUE of Bulbs and other flower roots, with directions for their culture and management; also, a list of the most desirable Winter blooming plants, roses, &c. Henry A. Dreer, Seedsman and Florist, 714 Chestnut-street, Philadelphia.

DESCRIPTIVE LIST of Hardy Native Grape Vines, cultivated and for sale by Geo. W. Campbell, Delaware, Ohio.

GRAPE VINES.—Description of stock of vines for sale at Iona Island, with some account of our four best hardy kinds; fourth edition. C. W. Grant, Iona, near Peekskill. New York.

O. & Sonny
DECEMBER, 1865.

Asterion Plan

ESTABLISHED IN 1846.

NAT

for the coming season, or

NA, ISRAELLA,

ADIRONDAC,

DELAWARE,

DIANA, CONCORD,

THE

AZ.

REDICT

and ROGER BRIDS,

BY THE

Dozen, Hundred or Thousand.

These vines have been grown from single eyes, and are now part under glass and part in air. Special pains have been taken to insure correctness in each variety. It is thought plants will merit the attention of purchasers. Prices upon application.

Address,

BRONSON, GRAVES & SELOVER,

WASHINGTON ST. NURSERIES,

Geneva, New York.

REMOVAL NOTICE.

HITCHINGS & CO.,

Have Removed their Office and Factory to

31 Centre Street, N. Y.

A FEW DOORS NORTH OF WORTH STREET.

(4th Avenue Cars pass the door.)

Where they continue the Manufacture of their

PATENT BOILERS,

AND

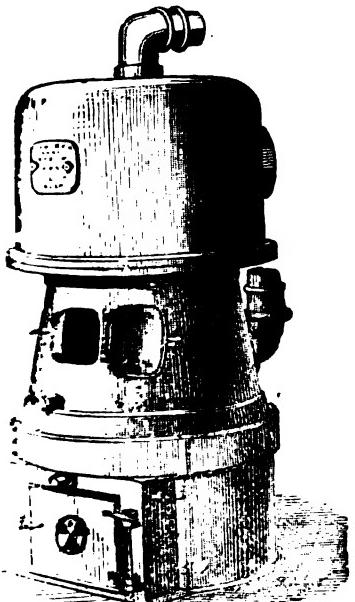
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FOR WARMING

**Green-houses, Craperyes,
CONSERVATORIES,**

Forcing Pits, Dwellings, Schools, &c.

Send for Descriptive Circular and References.



paid to the Trustees for the annual support etc.; beautifully illustrated plates and wood

and maintenance of said Cornell University. fine schools and complete g

fine academies, now we are to have free ~~acco~~^{lBS} Colleges and free Universities. The Corne

University proposes annually to rec

So far from each Assembl

LBS,
CROCUS, &c.

HENDERSON & FLEMING.

Oct. 21

67 Nassau St., New York.

DUTCH BULBOUS ROOTS

The undersigned has just received from his several houses in Holland, his largest portations of

FLOWER ROOTS,

And is now ready to supply the trade and others, by case or barrel only. For Catalogue apply, enclosing stamp.

C. C. ABEL, Commission Merchant.

Oct. 21

87 PEARL STREET, N.Y.

AUCTION SALE

OF

GRAPE VINES.

10 to 20,000 IONA,

30,000 DELAWARE,

25,000 CONCORD.

With smaller lots of **Israella, Adirondac**, and other new kinds, will be offered at Public Auction, on the grounds of

PARSONS & CO.,

FLUSHING, near New York,

On WEDNESDAY, November 8th, at 11, A.M.

These vines will comprise the best of their stock, and inferior plants will be carefully excluded. A description of their character will be found in the general advertisement of

PARSONS & CO.,

In the October number of the **HORTICULTURIST**.

Nurserymen and Vineyard growers are especially invited to avail themselves of this unusual opportunity to obtain fine plants.

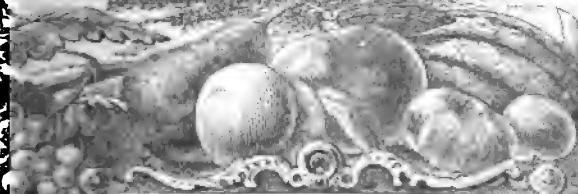
The Boat in connection with the Flushing Railroad, will leave James Slip and New York, at **8, 9, and 11 o'clock, A.M.**

D. D. &
Ashley
DECEMBER, 1865.

ESTABLISHED IN 1846.

THE HORTICULTURIST

Journal of ^{and} Rural Art
and Rural Taste.



D. E. & F. W. WOODWARD, Publishers, 37 Park Row, New York.

VOL. 20—No. 12—WHOLE No. 234

Postage—12 Cents per annum, if paid quarterly in advance.

12^½ Cents per Copy, or \$2.50 per Annum.

S. HALLET, PRINTER, NO. 68 FULTON STREET.

"THE HORTICULTURIST,"

Two Dollars & Fifty Cents per Annum—Twenty-first Annual Volume—16.

A permanent, reliable, and first-class journal, published Monthly, at TWO DOLLARS AND FIFTY CENTS Annum, and devoted to the ORCHARD, VINEYARD, GARDEN and NURSERY, to culture under Glass, Rural Gardening, Rural Architecture, and the Embellishment and Improvement of Country Suburban and City Homes. Handsomely Illustrated. Specimen numbers, post-paid, Ten cents.

Volume for 1865 now ready, handsomely bound in cloth, post-paid to any address. THREE Volumes for 1865 bound and post-paid, and numbers for 1866, \$4 50

Volumes for 1864 and 1865 bound and post-paid, and numbers for 1866, \$6 00.

The three volumes contain 1200 royal octavo pages of reading matter from the best writers in the handsomely illustrated, a valuable series for every library.

Annuas,

GEO. E. & F. W. WOODWARD, 37 Park Row, N.Y.

Every one who has an acre lot, a Garden, a Fruit Farm, a Vineyard, a House to Build, Out-buildings to Erect, a Home to embellish and beautify, will need the Horticulturist for 1866.

250 Dollars in Premiums offered to ARCHITECTS, LANDSCAPE GARDENERS AND OTHERS

For Publication, with Author's name attached. All Designs should be handed in before First of February.

Premiums.—For best series of Designs embracing all varieties of Out-buildings, Ice-Houses, Houses Observatories, Kiosks, Poultry Houses, Dairy-Houses, Corn-Houses, Bird-boxes, Well-houses, Aviaries, Gates, Fences, Boat-houses, Rustic Seats, &c.; small Perspective Views and Plans, \$100 description, \$50, second best, \$30.

1. For best Plan and Perspective View of a Farm-House, suitable for a medium sized family, on a farm of about 100 Acres, \$25; second best, \$15.

2. For best Plan and Perspective View of a Suburban Cottage, for a family of about six persons to 5 acres of ground, \$25; second best, \$15.

3. For best design for laying-out, planting, and embellishing a square acre lot, with public road side only, with ornamental grounds, garden, fruit, and full explanations.—\$10

4. For best three designs for laying-out a 3, 5, and 10 acre lot, square or otherwise, for Suburban location, embellishing the same in proportion to size, and planning the balance in garden, fruit, &c., to best income, with explanations.—\$10, \$15 and \$25.

5. For best plan of a Fruit Farm, 10 to 15 acres, with location and classes of fruit, quantities of trees, the whole arranged with a view to the greatest profit.—\$30.

All Plans to be drawn to a Scale, and may be in lead-pencil only. An impartial committee will decide.

Messrs. GEO. E. & F. W. WOODWARD reserve the right in all cases to engrave and publish, with name attached, all designs of merit that may be offered, without further compensation.

THE COUNTRY GENTLEMAN.

A first-class Weekly Agricultural paper; twenty-seventh semi-annual volume begins January 1st, quarto pages annually. Two Dollars and fifty cents per annum. Embracing

An Agricultural Department,
The Breeder and Grazier,
Horticultural Department,
Domestic Economy,
Dairy Department,

The Poultry Yard,
The Bee-keeper,
Fireside Department,
Record of the Times,
Weekly Produce Markets, &c.

Specimen numbers, post-paid, Eight cents. Subscriptions and Advertisements received, and books and volumes supplied. ADDRESS

GEO. E. & F. W. WOODWARD, 37 Park Row, N.Y.

THE GARDENER'S MONTHLY.

A reliable standard monthly periodical, 8th annual volume, devoted to all departments of Horticulture. Four Dollars per annum; with the Horticulturist Four Dollars per annum. Specimen copies, post-free.

WOODWARD'S COUNTRY HOMES.

A practical work on the Design and Construction of Country Houses, Stables, Out-buildings, &c. handsomely illustrated with 122 designs and plans, principally of low-priced buildings, with an illustrated article on the construction of Balloon Frames, which are stronger, and forty per cent. cheaper, than the tenon frame. Every man who contemplates building a house should have this book. In it will be found exterior views of compact convenient houses, suitable for farm, suburban and village residence, and practical examples, nearly every house having been built. These plans and suggestions will assist in building a house for himself. In these days of high priced building, the article on BALLOON FRAMING will save more than 100 times the price of the book. A mechanic who proposes to build a mortice and tenon house in Chicago cannot get employment'. Price \$1 50, post-paid, to any address.

WOODWARD'S GRAPERIES AND HORTICULTURAL BUILDINGS.

A practical work giving full direction for Designing, Constructing and Heating all classes of buildings for growing plants and ripening fruit under glass, being the result of an extensive professional practice, and the results of the design and construction of Horticultural Buildings, and of Culture under Glass. Price \$1 50, post-paid, to any address.

PRICED CATALOGUE

Sent free to any address, of all publications on

Agriculture, Mechanics,
Horticulture, Rural Economy, &c.
Architecture,

Orders executed for the Purchase of Books on all subjects. Subscriptions made to all papers in the country. After 1st Jan., 1866, a complete file of every Agricultural Paper in the Country can be found in this Catalogue. Subscriptions received for them.

GEO. E. & F. W. WOODWARD.

PUBLISHERS AND DEALERS IN

Agricultural Books, Papers and Periodicals.

37 PARK ROW, NEW YORK.

THE
HORTICULTURIST.

VOL. XX.....DECEMBER, 1865.....NO. COXXXIV.

OCTOBER.

BY G. P. DISOSWAY.

"Earth of man the bounteous mother,
Feeds him still with corn and wine ;
He who best would aid a brother,
Shares with him these gifts divine.

"Many a power within her bosom,
Noiseless, hidden, works beneath ;
Hence are seed, and leaf and blossom,
Golden ear and clustered wreath."

In the warmest, as well as coldest climates, there are but two seasons of the year, they are very different. With the cold the summer is about four months long, in the heat is extreme, because of the days. The winter lasts eight months the most intense cold immediately succeeds the violent heats, the rains lasting or five months, make the difference between the summer and winter.

There are four distinct seasons only in temperate climates, such as ours. The winter's heat gradually diminishing, the annual fruits have time to ripen little by little without any damage from the colds of winter. So in the spring, plants sprout and grow insensibly, without harm from

the late frosts, nor too much hastened by the early heat.

This change of seasons, well deserves our admiration and gratitude to the Author of all our blessings. It cannot be attributed to blind chance, simply because there can be neither *order* nor *stability* in *fortuitous* events. In all countries of the earth, the seasons succeed each other with the same regularity, as the nights do the days, precisely at the appointed time—and not by dark chance. We doubt not, the same Divine wisdom and goodness extend to the other planets. They are like the earth, and like our globe are influenced and warmed by the great orb of light; they must have their days and nights,—their summers and winters. Thence, may we not conclude, that those distant bodies are also inhabited with living creatures? And what an impressive idea does this give us of the power and magnificence of the great CREATOR of all things! How vast is his empire?

As our season advances, its character changes. At first, it was full of enjoyment

with a balmy softness in the air, and beauty and serenity over the blue skies, the fields enameled in gold and living green, and every thing was rejoicing and glad. Towards the close of autumn, however, a deeper sentiment seems to settle upon the human mind. Night has stolen slowly but sensibly on the day—the bustle and cheerfulness of the fields have ceased, the yellow grain has been plenteously reaped and gathered, and the earth, lately shining in golden richness, appears withered and bare. The pastures assume a darker hue; the woods, although still inexpressibly beautiful in the varied, fading tints, plainly speak of decay. It is impossible for a mind of any real sensibility, to resist the spirit of seriousness, which now rests on the land and waters, broods over the forests, and sighs in the passing breeze. But there is a pleasing melancholy feeling, not unmixed with enjoyment and moral sentiments. The decay of nature strongly reminds us of our own—for we, too, must surely fade into “*the sere and yellow leaf,*” and fall away from the earth. At this moment, we should think of **Him**, the touch of whose Almighty hand, changes everything—**HIMSELF** alone unchanged!

At this autumnal moment, when the days still glow with brightness and warmth, and the thermometer scarcely indicates any decrease of the temperature, and when the most perceptible change is some encroachment of the night on the day, there is a most remarkable alteration in the physiological condition of plants. This is a diminution, and finally the total suspension of the flow of *sap* from the roots, on which the vegetative process depends. One early and important result of this diminished action is the ripening of fruits and seeds; and it has been found that whatever diminishes the vigor of the vegetation, hastens the maturity of the fruits. Some gardeners know that by stripping trees of their leaves, the fruit will be sooner ripened, and this is effected not so much by exposing it to the sun, as interrupting the full flow of the

sap. The maturity of the fruit is a proof that the vital power has become less vigorous. This is particularly obvious in the ripening of grain; the plant loses its verdant color, the leaf shrivels, the seeds grow hard, and every thing indicates the sap has ceased to flow. Its vegetative power exhausted, and the object of its creation now fulfilled, it finishes the destined course.

The duration of the stem and branches is very different in different plants; and the longevity of some trees is most striking. In our former article we described the “Old Tulip Tree” of Monmouth, N. J. “The Gentleman’s Magazine” of 1762, contains an account of a chestnut then growing at Tamworth, England, and said, at that time, to be the oldest, and certainly one of the largest trees in that land. It measured 52 feet in circumference, and the period of growing from the nut was fixed at the year 800, in the reign of King Egbert. From that date to King Stephen is 335 years, when it was fixed as a boundary or land mark, and called by way of distinction, “*The Great Chestnut Tree of Tamworth.*” From the first year of Stephen’s reign, (1135) to 1762, is 627 years, so that the entire age of this forest monarch, at that period, reached 962 years. It bore nuts in 1759, from which young trees were raised*. Some kinds, native of more genial climates, have lived longer than the great Chestnut of Tamworth. Olives of a most venerable growth are now found in the garden of Gethsemane near the bottom of the Mount of Olives, and are supposed to have sprung from the root of those existing during our Saviour’s life. Wonderful instances of the vegetable *vita* principle,—after the lapse of more than seventeen centuries, scions of those venerable olives,—still exist to mark the sacred hallowed spot!

Wheat, sown in autumn, passes through the first important steps of the vegetati-

process before the severity of winter sets in. When the seed has been in the ground about two days, it begins to swell, and the juices communicated to the bud, cause it to shoot out the root, which at first is wrapped in a kind of purse. Within a few days, two other roots, spring forth in a lateral direction. In the meanwhile, under favorable circumstances, the grain will begin to push its green points through the surface of the earth, about the sixth or seventh day. This feeble stem is nothing more than a folded bundle of leaves, from which is formed the future spica. In a few days after the stem emerges to the light, the parent seed which has been gradually giving its milky juices to the nourishment of the new plant, shrinks and begins to decay. Then follow the leaves and stem, and in this state, the plant bears all the severities of the winter, the pelting of heavy rain, with the sudden alterations of the temperature. By the aid of this mysterious power, the vital principle, which, if it does not generate heat, certainly resists the in-

fluence of the cold. As the season advances and becomes more genial, the stem shoots vigorously upwards, and during the whole period of youth, its nourishing juices have been amply supplied from the root. At length, however, it is necessary, that the grain should ripen, and its useful farina be secured, and for this purpose, the same ALMIGHTY, wonder-working Hand, which has so strikingly nourished it, now arrests the flowing of this nourishment. The vegetative power has accomplished its task, the seed has been perfected, the fibres of the plant become rigid, the grain hardens, and the stem assumes a golden hue, which indicates that the vital principle has departed. Nothing now remains, but that the industrious husbandman should secure the enriching prize, which a bountiful Providence has awarded to him.

"Sow thy seed, and reap in gladness!
Man himself is all a seed ;
Hope and hardship, joy and gladness—
Sow the plant to ripeness lead."

The Clove, S. I., Oct. 1865.

GROWING GRAPES IN COLD VINERIES.

BY G. HOWATT.

MESSRS. EDITORS.—According to promise, I send you my system of Grape Growing, as you have seen and tasted my grapes after one year's planting, you can vouch for its accuracy in the fruiting. I have often thought how easy it would be for a farmer to grow his own grapes, at least all who have a barn with one side of it having a southern aspect; there is nothing more simple to grow and fruit than a grape vine. A great deal has been said and written on the culture under glass, a very great deal of it unnecessarily. I think that I can now that any farmer can grow them. The whole secret of grape growing is to have a good border; make that right, and you may rest assured of perfect success; then it matters not whether you grow on the rod or spur system. Last April I prepared a

border as follows: carted into it good yellow loam from the road-side and fence rows, to every five loads of loam one load of well rotted stable manure. My border is thirty inches deep, (two feet deep, when top dressed, will answer). Last year I collected all the dead horses, cows and calves that I could find in our neighborhood and buried them until wanted; I then carted and mixed with the above as we were filling. A few days before filling the border, I had given to me two dead cows, a horse, a mule, and two calves; these I placed in the border, chopping them in quarters and dividing evenly inside: from these we have had no unpleasant effluvia arise as might be supposed would be the case from such raw material. I filled it two feet deep with loam, dung and carriion; over this I put ten

inches (allowing four inches for shrinkage,) of chopped loam, manure, two loads of leaf mould, (from woods), and twenty bushels of bone dust, all mixed well together before putting on the border; this keeps the roots well to the surface. My border was then finished inside and ten feet on the outside. This coming spring I intend adding with the same made compost, ten feet more to the width of the outside border, giving then twenty feet of border outside. The following year add the same and the border is finished thirty feet from the house. (If the border can all be made at once so much the better; my reason in not doing so was for lack of material). My house is fourteen feet, inside measurement, sash thirty-two inches wide; to each rafter I plant two vines inside. Six feet from front I have posts set sloping to the rafter, so that they are seven feet from front to top; to those I also plant two vines. On back wall I also plant two vines (together as the others); planting them so that they will come in the centre of the posts and sashes; by this means the front vines do not shade them. I have in this house eighteen varieties, but the greater part of them Black Hamburgs. My object in planting two vines together is, that I may get a light crop of grapes of the one set of vines next year, and the following year a full crop. From the vines I intend to leave permanently, I do not take any grapes until the third or fourth year after planting.—When these come into full bearing, I cut away altogether the vines that I have been fruiting, thus leaving but one vine to the sash, post and wall. If I conclude to grow them on the rod system, I would let both vines stand, and fruit them every alternate year,—fruiting next year on this year's wood,—then cutting it down to make wood for the following year's crop. This system has no advantage over the spur system, except that it looks better to the eye.

I planted my vines on the 20th of June, (since) all one year old plants, excepting 24 that were two years old. In planting,

spread the roots well out and cover only one inch over them; cut the vines to two eyes and let both grow to eight or ten inches long, then nip off the weakest about the first of July, (or later or earlier, depends on what time you plant your vines). Cover your border inside and outside with hay, straw or bottom grass, about three inches thick; this is to prevent the young roots from being burnt. In training the first year, be careful and save the top of your vine; let it run all it will. All laterals and tendrils keep well pinched off. The laterals (side branches), should be pinched off at the first or second eye from the main stem; this will throw the growth to your leader. Water your vines once or twice a week, according to growth and weather. The best way to ascertain whether your border is dry is to run your finger down; if it is moist to that depth you are sure it is right. Your outside border will not require watering first year; the vines should be syringed twice a day until September, and then once a day to October, in the morning by six o'clock, leaving your house closed until eight or nine o'clock; this gives a fine moist heat. In the afternoon close your house at four o'clock and give another syringing; this gives a good moist heat for the night. About the first of November leave your house open day and night, giving all the air that you can; this is to ripen the wood, and you will soon see them a good brown color. Latter end or middle of December, prune and lay them down; in pruning select the strongest vines (those you intend fruiting next year) and prune according to the number of bunches you wish them to bear, from three to eight feet long. Those that you intend for wood next year, cut down to five or six eyes from bottom. When all are pruned, make a mixture of soft soap, whale oil and sulphur as thick as paste, and with a paint brush apply it to all your wood, covering the whole of it down to the roots; this will prevent the mice eating them and kill all insects. When this is dry take some straw ropes and

bind them from bottom to top, letting each round press against the other; then lay them along and tie them together, as you proceed bringing the end ones towards the middle; when this is finished cover all with straw and leaves.

Second year: about April, clear off your borders inside and out, also take your straw bands off, wash off the mixture, leaving the vines in about the same position as they were in winter; this makes them break evenly and stronger. Fork your border over lightly, say two or three inches deep. When the eyes have grown an inch, lay them up carefully to their places, giving them plenty of air in this stage of their growth, and syringe once a day for a month. This must only be done in the morning in cold vineries. About middle of May they should be syringed twice a day, and continued until your grapes are in flower, at which time you must discontinue syringing altogether, giving plenty of air until your bunches are set. When set, repeat the syringing twice a day until your berries begin to color; your syringing must then be discontinued. When they are about the size of peas you commence to thin the berries out. To an unexperienced hand this must be repeated two or three times. One berry should not touch the other. Your fruit will start from the first or second eye on the lateral from the main stem. When your fruit is set you should stop this lateral (that is nip it off) between the first and second bud above your bunch; this bud then breaks (grows) and makes another shoot; this you also stop at its first bud. Those are left to draw the sap to your bunch. All shoots that appear from this eye take off, and all shoots that should appear between your bunch and the main stem, nip off, as they would take the sap from your fruit, but in no case take off any of the large leaves, even if they should cover your fruit. You must be careful that your border is kept sufficiently wet until your fruit begins to color (same rule as first year). Also mulch your borders the same;

you should give your vines this year plenty of liquid manure. If you have not a liquid manure tank, sink some hogheads in your yard for the purpose of collecting it, and water your vines twice a week with it, from the time your bunches show until they commence to color. In watering with liquid manure, be sure that your border is wet before you apply it, for if dry, the probability is, that you would kill your vines or lose a year's growth and your crop. A good and sure rule is to water with clear water the evening before you water with the liquid manure. Keep pans of sulphur about your vines during the summer; this may prevent, and it will, at least, check mildew. My plan is, five or six times during the summer, after the fruit is set, to close up the house tight, and about twelve o'clock take some sulphur and sprinkle it thoroughly through the vines; let the house remain closed for an hour, this gives an immense heat, but I think it opens the pores of the plants and kills the fungii, at least such has been my practice, and I have never had mildew in a cold vinery. Let it not be supposed that this violent heat will injure your vines; you will, on entering, see them (if the expression may be allowed) in a fine perspiration. Syringing will wash all the sulphur out of the fruit. In the fall of the second year after your fruit is off, leave your house open night and day to harden and ripen your wood as long as the weather will permit. If you conclude to grow on the rod system, cut down your vines that did not bear this year to the same length as those that you fruited this year. Those that have fruited this year you will cut down to two or three feet from the border, and grow on them only wood next year, for fruit on following year. If you conclude to grow on spur system, you will let the vines that bore no fruit this year bear none next year, and cut them down to about three feet in length and treat same as first year. Those that bore this year, in pruning, you will leave about three feet of this year's wood and

you will have a crop next year. The following year let those same vines, in pruning, be left full length of your house, and the next year let them bear all that they will, as you then cut them out to make room for your vines grown on the spur system.—Every fall after the first year, let the borders inside and out be forked over, and lay on from four to six inches of good rotted manure, and in the spring fork it into the borders, tying the vines also same as first year with straw ropes. In growing vines on the spur system, you let your vines remain full length of the house. The pruning is done by cutting all the laterals close into the main stem; it will from this throw out a branch on which the fruit will show.—There is to each spur what we term a "hatter of eyes." Select the strongest of these eyes for your lateral, rubbing off all the others. The advantage of this is, that it takes away that unsightly thing—a spur, three or four inches long and half as thick as your main stem. You gain nothing by leaving the spur on, as from its base you get a bearing stem. Your stems, then, at all times looks clean. When shown, treat as directed in wood, &c., &c. For a few years only let every alternate lateral bear; this strengthens your vine and it will last a number of years. Every year prune and cover as directed;—this is all the spur system.

The above is written more for farmers, as I have given most minute particulars for their guidance, and all farmers will see that they can be grown as easily as any other crop without the assistance of a pro-

fessional gardener. My growth this year from one year old plants is seventy-four feet long and one and a quarter inches in circumference. Twelve feet of this I can make bearing wood for next year, if I wish, and those vines have only been attended to by a laboring man.

In making the vine border, I forgot to mention that the bottom of the border should be well drained, that is, have the bottom slope from the house to the outside of the border, sufficient to carry off all the water. If the bottom of the border is a hard pan, so much the better, as the object is to keep the roots of the vines as near the surface of the ground as possible. If the roots penetrate to cold sub-soil, it will occasion shanking in your fruit. When there is any danger of that, I always concrete my bottom three to six inches thick.

In making your border, add one-eighth part (that is one load to eight) of broken bricks, old lime rubbish and broken oyster shells through your compost; this is to keep it open. Add one-tenth part, if possible, of charcoal dust or broken charcoal; this saves all the ammonia from your other manures, and always retains a moisture in your border. In fact, I consider it a principal ingredient in making a vine border. I generally use the bottom of old charcoal beds. I shall send you my system of peach growing in pots in vineeries where there are no vines planted against back wall or middle of the house, as I have grown peaches, strawberries and vines in the one house.

NOTES UPON NEW AND RARE GREEN-HOUSE FERNS.—No. 2.

BY DANIEL BARKER.

GENUS POLYSTICHUM.

Selection of the most rare and beautiful. There are so many well marked varieties of this most beautiful genus, that we find it a most difficult task to undertake the selection of the most beautiful when all are beautiful and merit a place in the Fernery.

Some of the varieties of "Angulare" may, with protection, endure the rigor of our winter, but they are altogether too elegant and rare to risk otherwise than in the shape of duplicates.

POLYSTICHUM ARGULARE IMBRICATUM.
A very graceful and interesting variety,

with dark green fronds from one to two feet in length.

P. A. GRANDIDENS.

A most beautiful and distinct variety; a dwarf form of "Angulare," and thoroughly constant under cultivation. Length of fronds from 1 to $1\frac{1}{2}$ feet.

POLYSTICHUM ANGULARE DUBIUM.

A very large growing variety, the fronds often exceeding 3 feet in length; a most noble fern.

P. A. OBTUSUM.

A most elegant variety. We have seen but a single specimen of this very beautiful fern, and notwithstanding, we presume it is not yet introduced to this country, we are unwilling to omit including it, as it certainly is one of the most rare and beautiful.

P. A. MULTIFIDUM.

Should this variety prove permanent, it will be one of the most beautiful of the many varieties of "Angulare." The specimen we saw had the apex of each frond terminated in a beautiful *feathery-like tuft*.

P. A. CRISTULATUM.

A noble form; the fronds are from $2\frac{1}{2}$ to 3 feet in length by 12 inches wide, and not unfrequently crested; rare.

P. A. DECURRENS.

A very distinct and desirable variety; fronds from 1 to $1\frac{1}{2}$ feet.

POLYSTICHUM ANGULARE ROTUNDATUM.

One of the most beautiful of all the varieties; fronds of a deep shining green, from 1 to $1\frac{1}{2}$ feet in height; a very rare variety.

P. A. LATIPES.

A noble fern of very large size; fronds from 3 to 4 feet high, the base of which are from 9 to 10 inches wide. Soon as procurable should be in every select collection of ferns.

P. A. CORYMBIFERUM.

In some of the European collections of ferns, this variety is thought much of, and

when in its multified variation is exceedingly beautiful. We apprehend it will prove inconstant.

P. A. PROLIFERUM FOOTII.

This is undoubtedly one of the most elegant of the Polystichums. Young plants are exceedingly interesting and beautiful; fronds from 1 to $1\frac{1}{2}$ feet.

P. A. FOLIOSUM.

This variety we have not seen under cultivation, but the description given by one of the first authorities, consider it one of the most beautiful in cultivation.

POLYSTICHUM ANGULARE PLUMOSUM.

A most elegant, large growing variety; fronds from 2 to 3 feet in length, and most gracefully arching.

P. A. PROLIFERUM WOOLLASTONI.

An almost pendant variety, exceedingly handsome. This elegant and graceful kind should be in every collection of green-house ferns.

P. A. OBTUSSISSIMUM.

A most remarkable fern; extremely beautiful and very rare.

P. A. KITSONIA.

A most splendid variety, considered by some of the first cultivators of ferns in Europe, to be the most beautiful of all the varieties of "P. Angulare." The rachis of each frond is divided into several tufted corymbose heads. Quite constant under cultivation.

P. A. CONCINNUM.

A very pretty variety of a rich deep green color. The habit of this is exceedingly graceful.

P. A. GRANDIDENS SICCIFORME.

A very handsome dwarf growing variety; well adapted for the wardian case.

POLYSTICHUM ANGULARE THOMSONIA.

Fronds from 10 to 12 inches, the apex of each most beautifully crested in Corymbose heads from 2 to 3 inches wide.

P. A. GRANDICPS.

Fronds from 1 to 2 feet, of a rich deep green color; a really splendid variety. We think the most beautiful of the crested forms.

The above named varieties are a selection from near one hundred varieties of which we have made notes, and consider them the most beautiful of them all; but as "tastes differ," there may be those as great ad-

mires of the order "Filices" as ourselves think otherwise. Be this as it may, each of the above has their special beauties and peculiar habits and individual claims upon our attention. As Homer says:

Some charm when nigh,
Others at a distance more delight the eye :
That loves the shade, this tempts a stranger light,
And changes the critio's piercing sight :
That gives no pleasure for a single view,
And this ten times repeated still is new.

NEW HYBRID GRAPES.

BY JACOB MOORE, ROCHESTER, N. Y.

THE hybridization of the grape is a subject now attracting a good deal of attention, and as I have raised a number of good varieties by this method, I herewith furnish a description of them. I consider the hybridization of native with the foreign species, or the cross breeding of the best native varieties, the principal means by which further advancement is to be attained in the quality of grapes adapted to this climate. These were produced, in every case, from seed of the native varieties mentioned.

Clover Street Black.—From the Diana by Black Hamburg. Clusters large, about the size of Concord; compact, regularly shouldered; berries large, roundish, size of Concord, black, overspread with dark violet bloom; flesh tender, sweet and excellent, somewhat similar in flavor to the Hamburg, but livelier and wholly devoid of the offensive musky taste of the Diana. The vine is a moderately vigorous grower, with broad leaves as thick or thicker than those of the Delaware, and without down underneath; hardy and productive, and the fruit ripens with the Concord or earlier. Bore this season for the first time, and was fully ripe by the middle of September; very promising.

Clover Street Red.—Same origin as preceding. Clusters larger than the Diana, of the same shape, but not as compact, and occasionally with a long branch appended to

the top of the bunch; berries large, roundish oval, crimson when fully ripe, with a lilac bloom; flesh sweet to the centre, tender, juicy, with a slight Diana flavor, but richer and more sprightly. The vine is a rapid grower, the shoots large and leaves thick, downy underneath; productive and as hardy as the Diana. The fruit ripens rather too late for this section, about the same time as the Diana.

Diana Hamburg.—Same origin as preceding. This is generally considered the best grape of the collection. Clusters very large, six to eight inches in length, usually longer in proportion to the breadth than the Hamburg; regularly shouldered, compact; berries roundish, larger than the Concord; dark crimson, covered with rich purple bloom; flesh perfectly tender, breaking to the centre, letting out the seeds like a foreign grape; of sugary sweetness, in flavor remarkably like the Hamburg, but aromatic and more lively, fully equaling that excellent variety. The vine is a slow grower, the shoots firm, short jointed, buds large, leaves of medium thickness, deeply lobed, peculiarly crimped and often rolled inward; hardy and very productive. The fruit ripens just after the Concord, and at least a week or ten days earlier than the Diana.

Moore's Hybrid.—Same origin as preceding. Clusters broad, regularly shouldered, similar to the Hamburg in shape, com-

pact; berries roundish, the size of Concord, dark purple, with violet bloom; flesh tender, very sweet and delicious, nearly equaling the Diana Hamburg in flavor; vine a rapid grower, with large firm shoots and thick leaves; hardy and very productive; fruit ripens same time as preceding varieties or earlier, and the clusters are probably equally large, but this cannot be decided upon as yet, this being the first season the vine has borne.

White Musk.—From the Isabella by Royal Muscadine. Clusters and berries of the same shape and nearly as large as the Isabella, but of yellow color; flesh of the slightest possible consistence, nearly all juice and semi-transparent, showing the seeds; very sweet and delicious, having a *foreign muscat flavor*; vine a rapid grower, with light colored shoots and thin deeply lobed leaves; very productive and hardy so far as tested. This variety requires a shady situation, as the leaves are liable to sunburn if too much exposed, and the fruit apt to be insipid.

I have some other hybrids, but they are not equal to those described. One between the Catawba and Black Hamburg, which I call the Catawba Hamburg, is very large, but ripens so late that it will not succeed in this section. There are now clusters on the vine, weighing, I should judge, from a pound to a pound and a half. The color of the ripest berries is dark purple, nearly black; flavor acid and not good.

In sections where it would have an opportunity to ripen, this variety might prove well flavored.

Many persons came to see my grapes when ripening, and some pronounced the Diana Hamburg the best grape they ever tasted, others said it was the largest

and handsomest grape they ever saw grown out doors.

The color of this variety appears to be a blending of the two kinds from which it originated. When fully ripe the berries are dark crimson mingled with minute fiery specks, as of the Diana, over their whole surface. This is more apparent in the sunlight than otherwise, and as may be believed, does not detract from its appearance. Only close observation would detect this feature, however, and I am not sure there are other grapes which possess it.

With regard to hybrids, there seems to be a popular delusion. People seem to think they are necessarily not hardy. This does not follow, indeed, the reverse is true with the *best* seedlings produced by hybridization; this process seeming to have the effect of hardening their wood and rendering them capable of withstanding severities which neither of the parent varieties could endure. I say the *best* seedlings, for there are more or less of weak constitutions, whether of hybrids or common seedlings. What harder grape is there than Norton's Virginia, which is a hybrid between the Bland and Miller's Burgundy? Allen's Hybrid is said to be hardier than its native parent, the Isabella. Rogers' Hybrids are also hardier than Isabella and Catawba. Lastly, my own hybrids are as hardy, and some of them *more* hardy than the native varieties which produced them.

In conclusion, I think this combined testimony cannot well be refuted, and I am of the opinion that, in the future, through the hybridization or cross-breeding of not only grapes, but of all kinds of fruit, results will be obtained which have not as yet been dreamed of.

NOTES ON THE OCTOBER NUMBER.

GATEWAYS AGAIN, &c.

THANKS for these additional designs and hints. Would that our country carpenters could be educated to the taste requisite to

form rustic gates or fences. We cannot soon expect to educate the whole people, and as the writer says, the joiner will look at these plans, and then suggest mouldings

and squares, until all of the original design with its rustic simplicity and light airiness is lost in an unwieldy structure whose bare cost for workmanship has doubled that of the entire of the original.

To all of our country rural houses and farm places, there should be always a covered gateway; for, however, practical the patents for freely opening and shutting of the gates, they do occasionally get out of repair, and are sure to do so, just when a severe storm occurs. The covered gateway is then useful as well as being always ornamental. Few think of, yet all appreciate when viewed, the additional character given to a country residence by the style of the approach gate and road.

GREEN-HOUSE PLANTS AND NO GREEN-HOUSE.

A good article, but I must take exceptions to one or two points, not with any less regard for the writer, but that I think he would coincide.—First, where he advises the “cellar windows to be hung at the top.” I prefer the bottom, as then I drop the light of sash, and all impure air passes off, while no draft of cold air can come directly upon my plants. My second exception is, that unless a large quantity of plants are wanted from year to year to dress up the grounds, it is cheaper to purchase each spring of the dealer, than to expend the time in potting off and caring for the plants during the winter.

To most of our people who have small means and much love of flowers, the advice to grow any but hardy plants (except as they purchase for summer blooming), is erroneous. The man of wealth can and should keep a gardener, and have houses appropriate to the keeping, etc. of all plants designed to decorate his grounds in the spring, summer and autumn. Where the cellar, advised by Mr. Rand is used, I will name one other beautiful plant that succeeds well so kept—it is the Fuschia, or Lady's Ear Drop, in common knowledge. The cold frame recommendations should be heeded by all. For roses, it is the best of all modes.

CULTURE OF THE ROSE.

Another good practical article; and as roses are my pets, I may be excused for telling that I am now attending to the erection of a cold house, mainly to extend the blooming season of the rose. It is designed to plant directly in the ground, with the sash so that it may be entirely removed in the summer, and during the extreme cold of winter be shaded. The object is to get the most extent of blossoms with the least of care, avoiding the watering of pots and the care of fires, at an expense of two months rest out of twelve to the plants.

THE BIG TREE OF MONMOUTH.

Well, I have read this article, and beyond about one dozen lines recording simply one of the thousand trees abounding in our great country, especially of the West and California, I am at a loss to know—well, I should like much to know those boys and cockney's names, abraded on the bark of this noble tree, which were “thus to be handed down to posterity.”

NEW ERA IN GRAPE CULTURE.

Another of Mr. Husmann's plain, practical statements. To one item, however, I must take exception, viz: the first, pruning of the bunch leaves, while I concede the instructions for summer pruning perhaps better than what Mr. H. denominates old foggy practice, I cannot agree in his mode of pinching back the shoots so close to the bunches of grapes. Leaves, it is well known, are the lungs of the vine, and without them, neither the fruit can ripen, nor yet new roots develop. Both must be carefully studied to enable large crops of fruit to be yearly grown, and yet continue the health and vigor of the vine. To close early and severe pruning of our naturally strong and vigorous vines, I think we have to look for some of the cause of diseases too common in the oldest planted vineyards of our country.

To the denominated old foggy practice, I have more objections than that advised by Mr. H. A mean, and that not adapted to

all varieties alike, as is now the practice, is what I prefer, but rarely find adopted.

The subject of grape pruning is a wide one for discussion, and like southern secession, all of its errors will not disappear until its practitioners have been changed by a new generation—a generation of whom each man shall have studied vegetable physiology, as well as practical cutting of the vine.

NAOMI RASPBERRY.

From this description it would appear a desirable variety; but my advice is, to buy sparingly of new things. Get, if you will, one or two plants and test them. By-the-by, who can tell us of the Stover Raspberry, so lauded a few years since by some of our Philadelphia horticulturists?

FOOTE'S EARLY ORLEANS PLUM.

No better credit can be attached to a fruit, than to say Charles Downing approves it; but unfortunately many sections of our country find plum growing a decided failure, without more expense of time and labor than is profitable.

HYBRIDS AND CROSS FERTILIZATION.

The author has well argued his case, which, by the way needed no argument to convince any but those who were disposed

to remain wilfully blind. The very foliage of the varieties, I think, is testimony enough of their hybridization. The color or flavor of the fruit is no indication, but foliage tells.

DISAPPOINTED HOPES.

I cannot see how, in accordance with the knowledge which is generally claimed, that the life and health of a plant is affected by the condition of its foliage. Any *fixed* habit could be acquired in a vine to cause any such extent of mildew as is here recorded. I should look rather to a neglect of attention—not giving enough or giving too much of air, at a period when the atmosphere was impregnated with the poisonous sporules or mildew miasma. This, taken in connection with perhaps too much of "fatty" soil, or may be water at the roots, would lead me rather to judge of the cause than belief of a vine acquiring a "fixed habit."

STRAWBERRIES AGAIN.

A record of success that may be copied in like soils. Cultivators, however, must bear in mind that all soils do not require the same treatment, nor will all varieties do equally well with the "Albany," when planted in rows or beds.

REUBEN.

From the London Journal of Horticulture.

A PRACTICAL TREATISE ON THE GRAPE VINE.

BY WILLIAM THOMPSON.

IN the short space of three years, Mr. Thompson's admirable treatise on the cultivation of the Grape Vine has passed through four editions. Such an event is not to be wondered at, when we consider the experience of the author and the way in which he has, through these pages, communicated that experience to others. No better test of the appreciation in which the work is held can possibly be furnished than the appearance of the fourth edition, which

contains some new matter that has suggested itself to the author since the last edition was published. We observe there are two new chapters—one on "Scalding," and the other on "Stocks for Tender Vines," which, as it is a subject that has been much agitated of late, we will transcribe:—

"Those who have paid most attention to the subject have come to the conclusion that many of the highest flavored of our

grapes, which are at the same time the most delicate and difficult to grow with success on their own roots, will one day be grown with perfect ease when we have discovered the proper stocks for them, and that late-ripening varieties will be got to ripen earlier when grafted on earlier stocks. I have not myself proved the correctness of the latter, but have read of instances of it, and, reasoning from analogy, am prepared to believe it. Of the former, I had a striking proof in the case of the Muscat Hamburgh on the Black Hamburgh stock. On its own roots I have not grown it above 2 lbs. weight, while on the Hamburgh stocks I have had it 5 lbs. weight, with larger berries and much better finished in every way than on its own roots. I have proved the Black Barbarossa to be a most unsuitable stock for the Bowood Muscat, so much so that the fruit never ripened at all on it, while by its side the Bowood Muscat ripened perfectly on its own roots. The importance of this experiment lay in the proof it gave, that a late stock procrastinated the ripening of the variety grown on it; from which one is led to infer that an early stock, like Sweetwater or Chasselas Musqué, would facilitate the ripening of late sorts inarched on them. Of the excellence of the Black Hamburgh as a stock for such high flavored though delicate grapes as Muscat Hamburgh, and the whole of the Frontignans, I have not the slightest doubt; and I have during last summer inarched these sorts and many others on it, and recommended others to do the same, feeling confident that success will be the result."

At page 28 we find the following valuable hints:—

"I can strongly recommend the following method of planting and treating young vines, from my own experience of it in the past season. It is probably in its details new, but it only requires to be described to commend itself to all who have any knowledge of such matters. I had a large house to plant, chiefly with Muscats, in April, 1864.

I had a stock of one-year-old plants in eight-inch pots by me; I cut the rods back to 4 feet in February, and allowed them to stand in a cold peach-house till the 13th of April, when the border was ready for their being planted; I shook all the earth from their roots and spread them out on the soil of the border, one vine to each rafter, and 5 feet apart, covered the roots with 6 inches of soil, and gave the whole a good watering with water at a temperature of 150° , and covered the surface with an inch of dry soil to prevent, to some extent, the escape of the heat communicated to the border by the warm water. The vines were just bursting their buds when planted, and instead of adopting the usual practice of stopping or rubbing off all the buds but one or two, I allowed all to grow, and tied them carefully to the wires; by this means I had in some instances ten rods to one vine, all of which have, during the season, run to the top of the house, and partly down the back wall, a distance of 30 feet, and many of these rods are as strong as ever I had previously seen a single rod from a vine the first year it was planted. At this date (6th January, 1865) they are not yet cut down, and the whole house is a perfect thicket of wood. I will shortly cut back all these vines to within a foot of the front sashes, and train up two rods from each this season for fruiting in 1866; and I need not tell those who know that a plant makes roots in proportion to its leaves, that vines treated as I have described, will have an enormous excess of roots formed in the border, as compared with others treated on the one-rod and pinching system, and that the bearing-rods they will make this year will be in proportion to the extent and vigor of their roots in the soil. I have just measured one of them that, when planted in April, was no thicker than a writing-quill, and I find that it is now $3\frac{1}{2}$ inches in circumference, and has ten rods perfectly ripe to the top of the rafters, a distance of 21 feet. If, instead of permanent vigor and productiveness, an immediate return were

the object aimed at, I have no hesitation in saying that such a vine would yield 50 lbs. of grapes this autumn."

We cannot too strongly recommend Mr.

Thompson's treatise as a thoroughly practical and sure guide to the cultivation of the Vine.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. WOODWARD, 37 Park Row, New York.

THIS number closes the twentieth volume of the HORTICULTURIST and the terms of subscription of most of our patrons; all of whom we hope will send in early for the New Volume. Our Volume for 1865 has been one of the most successful ones yet issued, favorably received, and liberally sustained; its merits have been of a high order, and all articles and voluntary contributions from writers of talent and ability. With the New Year commences our New Volume, which will be made a model of excellence in all the departments of Horticulture and rural art and rural taste; it will be ably edited, handsomely illustrated and carefully printed, and will commend itself to the attention of every one interested in the progress of rural pursuits. With a fine reputation, abundant capital, with prompt energetic business men as publishers, it will be made so that every one who owns a grape vine, a city yard, a garden, an acre lot, a vineyard, an orchard, a country seat, a farm, and who has ambition to excel in fruit culture and in home comforts and adornments, will hesitate at least twice before he declines taking the HORTICULTURIST for 1866.

BINDING.—Volumes of the HORTICULTURIST for 1865, can be had at this office, handsomely bound, in exchange for numbers in good order, on the payment of seventy-five cents. Covers or cases for 1865, or any former year, will be forwarded,

post paid, by mail, on receipt of forty cents. All periodicals bound in any style, at the lowest rates.

WE SHALL publish, at this office, in January, 1866, in the finest style of Chromo lithography, in colors, a plate of the Delaware Grape, on heavy imperial paper, suitable for framing. Price, three dollars per copy, post paid everywhere.

SPECIAL PREMIUMS.—Each one of our subscribers, new and old, who shall, in addition to his own subscription of two dollars and fifty cents, send us, at any time before the first day of February, 1866, two new subscribers, and five dollars, shall receive, post paid, a copy of the Delaware Grape. Our subscription price is uniform to all, TWO DOLLARS AND FIFTY CENTS per annum, but as the applications are so numerous from parties desirous of forming clubs, we make this proposal: To any person sending us ten or more subscribers, and two dollars and fifty cents each, we will send them any books, papers, or periodicals published in New York, Philadelphia or Boston, to the amount of one dollar for each subscription sent, provided the number sent be not less than ten. Thus, any club agent remitting us 75 dollars for 30 subscribers, will be entitled to 30 dollar's worth of publications at retail prices; this would give him twenty copies of the American Agriculturist, or twelve copies of

the Cultivator and Country Gentleman, or fifteen copies of the Gardener's Monthly, or thirty dollars' worth of any books or papers published. Subscription can then be taken for these, and the premiums thus converted into cash.

DEATH OF THE BOTANIST LINDLEY. — Dr. John Lindley, the celebrated botanist, died in England last month, at the age of sixty-six years. His first literary efforts after devoting much of his early youth to the practical details of the science of botany, was the translation of Richard's "Analyse du Fruit," from the French, and the contribution of some papers to the Transactions of the Linnean Society. After that he proceeded to London, where he was engaged by Loudon to assist in the production of the "Encyclopaedia of Plants." In 1832 he published his "Introduction to Systematic and Physiological Botany," but his *chef d'œuvre* was the "Vegetable Kingdom," which gives a comprehensive view of the structure and uses of the plants of the known world. For more than a quarter of a century Dr. Lindley filled the chair of botany at University College, and in 1860 was appointed examiner in the University of London. He was Fellow of the Royal, Linnean and Geological societies, and corresponding member of many continental and American learned bodies. In 1858 he received the medal of the British Royal Society, in reward of his services to the modern sciences.—*Post.*

AN EDITOR ON HIS TRAVELS. — We had the pleasure, the other day, of welcoming to our sanctum J. Q. A. Warren, Esq., late the editor of that valuable periodical, *The California Wine, Wool and Stock Journal*, and California correspondent of the *HORTICULTURIST*, New York, and *Prairie Farmer*, Chicago (Ill.). Mr. Warren visits the Islands mainly for the benefit of his health, which we hope will be fully recovered under the genial influences of our climate. Combing, however, business with recreation, he

will correspond regularly with newspapers in California and the Eastern States, giving sketches of life and scenery in the Islands.

"Hear, land o' cakes and brither Scots !
Frac Maiden End to John O'Groats,
If there's a hole in a' your coats,
I rede ye, tent it ;
A chiel's amang ye, takin' notes,
And faith he'll print it !"

— *Hawaiian Gazette, Hawaiian Islands.*

— **Mr. F. K. PHOENIX**, of Bloomington, Illinois, wishes to have more plans devised to use grape fruit. Mr. Phoenix is one of the most enterprising nurserymen of the West, and we suggest that he first devise some plan to give New Yorkers at least grapes enough to eat. We are perfectly willing to pay good prices for good grapes, and live in hopes as soon as Sir Morton Peto's plans are completed, for prompt and rapid transportation from the great West, that grapes will be more plenty here.

— Sixty-five cents a dozen for eggs, which we paid last week, in New Jersey, ought to pay a good profit on eggs from Illinois.

— **THE New Hall of the Horticultural Society**, at Boston, was dedicated Sept. 16th; the President, C. M. Hovey, Esq., delivering the address:

— "They are debating also in Boston" says the *Post*, "the propriety of setting up, at the city's expense, free markets—markets, that is to say, in which no rent shall be charged to hucksters. When they have introduced this great improvement, they ought also to build free tailor's shops ; and nothing would add more to the popularity of Boston than a great free lunch—"from ten to three; and perhaps one hour on Sundays. We New Yorkers would think it a very happy thing if we could get clean markets, and would not ask that they be free as well."

— **ONCE** Mr. DUNHAM, nine miles east of Cleveland, Ohio, pays taxes on \$2,236, received last season, for grapes sold at fifteen

cents per pound, raised on one and a half acres of land.

— PATERSON, New Jersey, must be a desirable place. The undertaker there, who is probably something of a horticulturist, heads his advertisement thus :

" He who by the plow would thrive,
Must either hold himself or drive."

" A rapid increase of business," he says, warrants his removal into more commodious quarters," and, " To our friends in the country we feel compelled to return thanks for the very large share of patronage they have given us of late."

— A SOUTHERN paper remarks that " the following General invitation from a Confederate country maiden to a friend in the city was penned before the Confederacy ' went up.' "

Come leave the noisy *Longstreet*
And come to the *Fields* with me :
Trip over the *Hath* with flying feet
And skip along the *Lee*.
There *Kwell* find the flowers that be
Along the *Stonewall* still,
And pluck the buds of flowering pea
That grow on *A. P. Hill*.
Across the *Rhodes* the *Forest* boughs
A stately *Archway* form,
Where sadly pipes that *Early* bird
That never caught the worm.
Come hasten, for the *Bee* is gone,
And *Wheat* lies on the plains ;
Come braid a *Garland* ere the leaves
Fall in the " blasting *Reins*."^{**}

*Rains will be recollect as the partner of McDaniel of the torpedo business.

— ONE town in New Jersey ought to have at least 1000 copies of our November number circulated in it pretty freely. " Village and Country Roadside," is an article they could read with profit. Passaic, N. J., naturally one of the finest suburbs of New York is forty-eight minutes from " bright Broadway," by the broad guage palace cars of the Erie Railway. In point of time, one half of the city of New York lies further from the City Hall, but no country place we know of, except Passaic, has in its main thoroughfare so many broken down and abandoned wagons and so much rubbish.

—For the amusement of our western readers, we clip the following from the editorial leader of the " *Maine Farmer*," a prominent weekly agricultural and general newspaper, published at Augusta, Maine. The State of Maine is situated in the extreme north-eastern part of the Union; and Aroostook County is in the north-east part of the State, on the Canada line.

" As to the question whether a young man shall go to Aroostook or to the West, this must depend upon his circumstances and tastes. We were pointed to a family who were brought up in Aroostook. Several of them settled near the homestead and are now independent, though yet young men; others went out west and returned with loss of property, and what is infinitely worse, with loss of health. Aroostook is a healthy county. Go through a crowd of a thousand people and you will scarcely see a sickly look among them. We believe this more than counterbalances all other considerations. What is a family good for whose husband is yellow with jaundice, whose wife is sallow, and whose children never knew what it was to have a blooming cheek. This is the picture of those who emigrate from New England to the West and raise up a family there. What is wealth when one must drag out a miserable existence from diseases contracted in an unhealthy climate. * * * * * Let three or four of our soldier boys buy up a neighborhood and clear up the land, and they will enjoy their stories of battles fought during the war all the better as they assemble during the long winter evenings around their cheerful fires."

The soldier boys of Maine, all honor to them, ought to have facts, and we can give them.

There is no healthier section of the globe, not even excepting Maine, than the Western States.

Better farming lands in tracts of 80 acres, can be bought for \$500, on long credits, inside of ten miles from railroad stations, with good roads, churches, schools, &c., than can be cut out of the woods of Maine in half a century.

The young man who commences life in the timber, in this progressive age, makes a life-long mistake. He who pushes for the broad prairies, will travel the road to success.

At the late Northampton, Mass. Agricultural Fair, Col. Daniel Needham, in his address says:

..... "Let us look at the West and compare the farmers there with those of New England. There is not a farmer in the West, down to the present day, who has become rich by legitimate agriculture. His wealth has been gained by selling his land.... As a whole New England farming pays better than any other farming in the world."

New England farming must needs bolstering up badly, but such talk as this wont stand, better study Geography, History, Common Sense, and then travel through the West, and see far beyond your wildest dreams of agricultural wealth and prosperity. Say what you please, and write what you please, the broad and fertile prairies of the West will ever be a drain on the Eastern and Middle States. You cannot keep your enterprising men at home. You will find them now on every swell of the prairie, in every town and city and you find more of them next year, they are the men of energy position, wealth and influence ; they do not scratch among stumps and rocks, or moulder around old hearthstones. Better spend your time spitting at the sun than undervaluing the gigantic agricultural resources of the West. It is a natural fact from which there can be no dodging.

THE GRAPE CURE. — Of all the Swiss healing theories, says a writer in *Blackwood's Magazine*, commend me to the grape cure, which is carried out chiefly in autumn on the shores of Lake Leman. Here is no shivering on the brink of cold baths, or swallowing repulsive drinks. It is worth while having incipient consumption in order to live on grapes in that lovely region. The excellent Dr. Curchod, of Vevay, who is the great authority on this subject, begins his treatise upon it by remarking, "Without going back to biblical writers, who, since Noah, have spoken of the fruit of the vine, we find mention of grapes as a medi-

cine by the Greek physician Dioscorides, who—" This is going back to the commencement with a vengeance ; but authorities in its favor are scarcely required to recommend so pleasant an aid to health. It is employed chiefly in diseases of the lungs, but some other illnesses also benefit by it, and its action is elaborately explained in the treatises just referred to. The grapes are eaten daily up to the extent of six or seven pounds weight—the usual price in Switzerland in autumn for the best grapes being half a franc per pound. They contain most elements necessary to a proper nourishment of the human body, but not quite all, so it is usual to take them along with a small portion of other nourishment. The practice, however, is not to be recommended of varying the cure by means of a *déjeuner à la fourchette*, and *table d'hôte* dinner. The average time for pursuing it is about a month, and one of the symptoms of its having taken effect is a peculiar burning feeling, as if the mouth were filled with pepper; but that is easily got rid of. Few things could be pleasanter than to undergo the grape cure, floating about in a boat on Lake Leman, and residing in the splendid Hotel Byron at Chillon, or the Beauvillage at Ouchy. No doctor is required to recommend it to me, or to declare that I require it. I don't care a grape-seed for Dioscorides or Dr. Curchod. All the doctors in the world may swear that the Traubenkun can do me no possible good. They can condemn me, as Dr. Curchod actually had the cruelty to do, to the mud-baths of Acqui. If it is autumn on the Lake of Geneva, I feel dangerously ill ; tubercles are forming on my lungs ; bronchitis is dragging me to a premature grave ; chronic catarrh has afflicted me long ; I have borne too patiently with *plethora abdominalis* ; there is hypertrophy of my liver ; my brains are hyperemic ; every mucous membrane in my body is in a state of violent inflammation. "Ho, gargon ! Get me six pounds of grapes, and place them in the boat. Where is Mme la Princesse ? No vanity of luncheons more!"

THE HOCK VINEYARDS OF GERMANY.—A Frankfort on the Main correspondent of the Cincinnati Gazette writes as follows of the great hock vineyards of that place, where the wine known as hock is produced:

The hock vineyards do not contain all told, more than 75 to 80 acres, and in ordinary and good years the produce is not over 600 "stuck" (a stuck is about 1,500 bottles), which give us a total of 900,000 bottles, yet we are assured by reliable men engaged in the wine trade, that there are sold every year at the auctions held at the wine guts, no less than 6,000 stucks, all purporting to be the genuine hock. The kind of grapes mostly grown in these great wine yards are the Reisling, Traminer, Gut Edelen, Roland Orleans, Clevern, Fleisch, Oestreich.

From the Reisling variety are made those wines so celebrated and well known throughout the world, such as the Johannisberger, Steinberger, Catinet, Raunthaler, Berg, Liebsraumilch and Marcoheunner. Very good wines are also made from the Traminer. The Fleisch is a red grape; the Clevern a reddish purple color, but is more grown in the Palatinate than here. The Gut Edelen and Fleisch have very thick skins and are only used as a table grape. The Reisling never produce in quantity as much juice as any of the other varieties, but it brings a much larger price. The Oestreich seems to be the general favorite for ordinary wines, and from this grape is made most of the sparkling Hock and Moselle.

For the Johannisberger and other celebrated wines, in consequence of the demand for them, the wine merchants are unable to fill the orders; so they obtain wines produced in other localities, which assimilate to the taste of the respective wines, and label them with these popular names. They are sometimes nearly as good, though an experienced wine merchant will detect the difference at once by the taste, as quickly as he discerns the growth of one year from another.

At most of the hotels, the label does not indicate what the wines are, nor, in fact, can they afford them at the ridiculously low prices marked, such as from fifteen cents to thirty cents a bottle.

CULTIVATION OF CHESTNUTS.—Prof. J. P. Kirtland, with his usual interest and enthusiasm in the cultivation of whatever of fruit or vegetable that tends toward the comfort and support of mankind, has drawn attention to the cultivation of chestnuts—(see *Ohio Farmer* for Dec. 24, 1864.) In that article the Professor speaks only of his success in growing from seed. Will you permit me to add, that they can be engrafted with as perfect success as any other tree, by the means known as side grafting. Procure your scion early in spring, keep it in a cool, dormant condition until after the tree on which you are going to engraft it has swollen its buds almost to bursting, then cut the lower end of the scion in a wedge form, with a little slit or tongue on one side. Select in the tree a branch about the size, or perhaps a trifle larger than the scion—make a slice cut downward, and a tongue or slit on the inside of the cut corresponding with that on the scion—insert the scion, matching the one tongue into the other, and the graft has then the new wood and bark to match and connect in on both sides. Now wrap with bass matting, and cover with grafting wax to keep out wet. When the graft has made two leaves take off the top of the branch on which it is inserted to a corresponding number of leaves, and in July cut back the branch close to the graft.

As seedlings of the Marrow chestnut vary as much in quality as our common kind, where parties have the common sort and can get grafts of the Marrow, that are known to produce large and fine fruit, engrafting will be the cheaper and better way to procure the variety, but seedlings will come into bearing usually in about eight or ten years. The profit of growing chestnuts

and soft-shell hickory nuts, I have no doubt is equal to that of peaches or apples, once the orchard has arrived at maturity.—*E. in Ohio Farmer.*

SIEMPRE VIVA.—A friend furnished us with a description of this plant, to which we referred in our last number:

UNDYING PLANTS.—A letter from Guayamas, Sonora, Mexico, describes some of the strange and beautiful things found in that remote region, including a species of evergreen, as follows: Passing on beyond Aribechi, about two miles, we struck the bed of a stream through which we commenced our progress to another range of mountains, whose slopes came down to the very edge of the channel way. It was here that we found the north sides of rocks which faced the stream, covered by what at first seemed to be the most exquisitely beautiful green mosses that ever decked the rugged sides of a mountain. The entire sides of the mountain at this spot were blooming in the liveliest green. We dismounted to pluck some of these plants and found that they were not strictly mosses, though undoubtedly they belong to that class of plants. Each one had separate roots firmly holding it to the rocks, and from these roots grew out a plant that opened to the diameter of a common teacup or a saucer, and spread itself flat on the face of the rock. The leaf somewhat resembles in texture the *arbor vita*. These plants bear the name of *siempre viva*—always living, or always alive. Their peculiarity is to come out into beautiful green life in the rainy season, and then when all moisture has deserted them, to turn as brown as autumn leaves, and roll or curl themselves like a ball, as uninteresting to see as a brown stone, seemingly dead. But with the return of moisture they uncurl their leaves and spread out again as beautiful and green as ever. Another peculiarity of the plant is, that you may pluck it, throw it into your saddlebags, and keep it six

months; and then place the roots in a cup or saucer of water when you retire for the night, and in the morning you will find by your side a lively green plant. It looks like magic; but I have tried it to my surprise and delight. The plant never dies; its life is immortal, and its beauty of texture, and form and color is renewed or continues with the continued supply of moisture.

N. Y. State Journal of Agriculture.

EVERGREEN HEDGES are not only the most ornamental enclosures for pleasure grounds, but they impart a richness to the whole place; and nothing so effectually shuts out from view unsightly objects upon adjoining lands. Summer and winter they are equally well clothed; they soften the arid winds of summer which dry the ground too quickly; and they break the force of winter gusts, and their shelter keeps the ground warmer in winter. Many kinds of ever-blooming roses and other half hardy plants pass through the winter uninjured upon grounds enclosed by evergreen hedges; while the same kinds of plants in the same neighborhood, on open grounds, are totally winter-killed.

There are several species of evergreens suitable for hedges, and some of them flourish better upon one kind of soil and exposure than upon others; therefore, those who are about setting out evergreen hedges should first consult their own taste; choose those that will best suit their soils and exposures, and have them planted at the proper time. All the *Arborvitae* make beautiful hedges, the American is the best, and thrives upon a greater variety of soils. The *Hemlock Spruce* makes a most beautiful, strong and lasting hedge; the *Norway Fir* is now much planted for hedges, and is most admirably suited for that purpose; it is beautiful, strong and lasting, and, like the other two, it is very hardy, and even more beautiful in winter than in summer. The best time to plant evergreen hedges is from the middle of September till the end

of October, but not until the soil gets well moistened with rains. We have planted many hedges in November that succeed admirably. The trenches should be dug of a depth and width suitable to hold all the roots of the plants without bending them. The distances of the plants in the rows will be according to the sizes of the plants when set out. Two or three feet high plants are most generally used for hedges; but, where immediate effect is wanted, plants five and six feet tall are used; we have succeeded with all sizes, so may others.

TRAINING THE TOMATO.—In cultivating the tomato in large market gardens, the plants are usually pinched before their final transplanting, and they are then left to grow without any support; but in small gardens, not only is greater neatness observed by taking some pains to train the plants, but the fruit is improved both in quantity and quality. There are several methods of training. One which, if not altogether the simplest, is one of the neatest, is described by Mr. G. M. Childs, of Hancock Co., Ill. "As soon as the plants are large enough, transplant to rich, light soil, one in a hill, and at least five feet apart each way. At least once a week, scoop the earth away from around the plant and pour on a quart or more of soap suds. When the plant commences to branch, cut off the outer branches; this will have a tendency to increase the size of the stock and cause it to grow bushy. After the plants are 16 to 18 inches high, they should be provided with frames. I make mine by splitting standards from pine boards $5\frac{1}{2}$ feet long, and sharpen their lower ends.—To these standards are nailed slats made by sawing 4 feet laths into three pieces.—The frames are made 16 inches square, nailing the lower slats at 15 inches from the bottom of the standards, the upper ones at the top, with others mid way between the two. Frames made this way have been in use five years, and with a little repairing will last some years longer. When the

branches extend beyond the slats and over the top of the frame, clip them, leaving one leaf above the fruit stems, and continue to do this throughout the season. The plant trained thus and showing its ripe and ripening fruit, forms a most beautiful object, and one tomato grown in this way is worth a dozen as usually cultivated. Last year I had 21 plants, from which I gathered an abundance of fruit for table use and canning for a family of five persons, besides distributing from five to six bushels among my friends. No one need to be afraid of using the knife freely, as there is no danger that the plant will not fruit abundantly. In my experience the difficulty has been to keep it from fruiting too much."

CALIFORNIA GRAPES.—In a late number of the *California Farmer*, we find among the list of acknowledgments of fruits, &c., received, the following description of some well-known varieties of the foreign grape:

To S. W. Shaw, of Sonoma, we are most grateful for a very liberal donation in the shape of a box of splendid grapes, and such grapes! How shall we describe them,—by weight, by measure, or by appearances? O, Shaw! we can't do it; we can tell how many pounds each bunch weighed, but to tell of their beauty as they lay revealed requires the pencil of a true artist, so we must have a painting of them.

The fruit, however, was indeed most excellent. The Chasselas of Frontinac and Muscat of Alexandria had berries measuring 3 inches in diameter, and noble bunches too; Black Hamburg, noble berries and bunches weighing 3 to 4 pounds; Reine de Nice, magnificent, both in bunches and berries. Such fruits speak both for our climate and soil. With very grateful acknowledgements to our friend we will think of him as often as we eat.

GRAPES AND FIGS.—“Sitting under our own Vine and Fig Tree.”—Not exactly under the vine and fig tree, but before the products thereof, and that is better than sit-

ting under either vine or tree, provided they were the *sour* kind that we could not reach. The last week we received a box of very ample dimensions of delicate grapes, just as we were going to press, and we promised to speak of them as they merited this week. We shall do so now, not merely to express our grateful thanks for the liberal donor, but to show the capabilities of our climate for the production of as fine and luscious grapes as the world can produce.

This box of grapes came from the splendid "Gardens of the Alhambra," situated near Martinez, two and a-half miles from the landing, in a beautiful valley once a wild, but now one of the most beautiful spots in California. These orchards, gardens and vineyards of Dr. J. Strenzel are in the highest state of cultivation, they are extensive and producing very abundantly every kind of orchard fruit, many thousands of gallons of wine annually, figs, pomegranates, oranges, lemons, etc. But the grapes we recently received were as follows: Reine de Nice, bunches 3 to 4 pounds, and berries 2 to 2½ inches in diameter, solid, yet luscious and beautiful enough to tempt the gods, i. e. to eat them; Royal Muscat, Muscat of Alexandria, and Canon Hall Muscat—all magnificent; St. Peters, Black

Hamburg, Victoria Hamburg, Grey Chasselas, Isabella, Palestine and Corinth. The Reino de Nice and Muscats were gorgeous and delicious, as well as beautiful, the Corinth, *seedless*, were second crop, but delicious—all were really of a quality to make us feel proud that our State can produce such fruit—and our State may be proud too that such men live in it to make the *wild places of the earth* become beautiful gardens, as the Doctor has done in his case, very much to his own honor and the credit of the State. In returning thanks for so generous a remembrance, we can only hope the Doctor will never have any poorer grapes, and his crops always on the increase. Such men deserve a glorious harvest.

[We have heard of the wondrous productions of our Pacific States, and our eyes have been gratified occasionally at the sight of huge Duchesse d'Angoulême pears, weighing two and a-half pounds, and of the Belle Angevine of still greater dimensions. But this story of the grapes has too much of the "Munchausen" about it to be believed by us, or our matter-of-fact readers. Friend Farmer, have you not forgotten your mathematics and the definition of diameter? Circumference we imagine would be the proper word.—ED.]

CORRESPONDENCE.

WAWKON, ALAMAKER Co.,
Iowa, October 26th, 1865.

DEAR SIRS:—

Do you remember, Messrs. Woodward, little Wawkon, away out West and away up North in Northern Iowa, on the "most beautiful of all prairies," where the sparkling water bubbles up by the wayside; where greenest of grass and brightest of prairie flowers delight the eye and load the purest of breezes with their fragrance? And do you remember the little knoll on the east side of the village, where the crab apple opened its gorgeous bloom, and the hazel ripened its nuts, and the brown

thrush welcomed the morn with her gushing melodies? Well, the crab apple has given place to the *spy*, the hazel to the vine, the brown thrush is joined in her song by the canary, the robin builds her nest in the fir tree, and here is the little brown cottage that I call home. Within its humble walls this rainy October day, I have been having a social interview with Woodward, Meehan, Robinson, Emery, Barry, and other Horticultural friends.

The chief topic of conversation to-day has been the grape, and a solemn case they make out. From Alton, Bloomington, Cincinnati, Rochester, Hudson River and

Philadelphia, almost everywhere, in fact, the burden of report is mildew and rot, rot and mildew. What does it mean? What is the cause? What is to be the result? Is our whole system of cultivation so wrong that it thus generates disease? Are our varieties naturally feeble? Is the climate so unfavorable as to *create* these ills? Does this widespread disaster point to annihilation?

Now don't laugh at me for writing about grapes from this frozen spot where the intense cold of winter is such that the mercury frequently indicates a temperature of 35°, and kills a peach tree or Baldwin apple or Bartlett pear tree as surely as an orange; for, the fact is, that even here I have been a good deal troubled with the "grape on the brain." I have been dabbling with them in a small way for eight years, and have now a collection of 22 kinds, including the most popular, mostly in bearing, and I have never yet seen a single *mildewed leaf or rotten grape on them*, or within miles of them.—Now, I am unable to decide whether this remarkable health is attributable to the climate, or soil, or mode of cultivation, or pruning.

Solon Robinson says, that grapes "have *mildewed this year worst upon the best soils, judiciously cultivated, fertilized and pruned.*" Now I think that "*the above is a striking example of a man jumping at a conclusion.*" Is it not barely possible that *somebody may be mistaken as to what actually is the best soil, most judicious cultivation, fertilizing and pruning for the grape?* The plan usually recommended is *not successful*. In fact, we have high testimony that the better (?) they are treated the worse they are diseased. Does not this rather tend to shake our confidence in the accepted standard of goodness?

Now, one word for "*my way.*" I prepare the ground as for corn; I never manure; plant six inches deep; cultivate like corn. Practice summer pinching promptly but sparingly; prune moderately; bury in fall, and gather immense crops of large, healthy,

high flavored, perfectly ripened grapes of all the leading kinds, including Catawba. Don't laugh about my ripening Catawbas up here, for I can and do do it thoroughly.

In short, at a very moderate cost, I have been *successful*. Is it the climate? Is it the soil? or is it the treatment? Something it is; what is it? Are old grape growers as anxious to learn as young ones? *Let there be light.*

Yours, &c.,

D. W. ADAMS.

Messrs. GEO. E. & F. W. WOODWARD.

EDITORS OF HORTICULTURIST:

I have read with much interest your correspondent, Wm. Day's Essay on Strawberry Culture, in the October number of your journal. Having some experience myself in the propagation of the strawberry, was glad to find our ideas so fully considered. I have but one objection to make to his plan of operations, and it is on that account that I trouble you with this article, to prevent others from being misled by it.

He asks, "what do you do with the runners?" and answers, "cut them off as fast as they appear."

In this, I think he is much mistaken in doing. Now the tendency of this operation as I have found from experience is, to induce the hill of plants to assume a dense tussock-like state, with the crown of the roots thickened into hard excrescence shaped heads; or in other words, hastens the maturity of the plant, and makes it as worthless for bearing in the second, as under other management it would be in the fourth year. Throws all the vigor of the growth, after the fruit is gathered, into the original plant and making it prematurely old. The effect of this is to reduce the size and quality of the fruit. You may produce a large number of small insipid berries, but nothing to compare in size and flavor with those grown by other treatment; nor will the measured quantity be nearly so great.

My plan of cultivation, as respects the runners, is this: after the crop is gathered,

remove the mulching, dress up the ground with the hoe, and leave the plants to take care of themselves. They will thrust out runners in all directions, and in time cover the open spaces. Pull out the weeds and grass from time to time from among them during the summer, so as carefully to keep them from being smothered by noxious weeds, and at the time of weeding pull up the runners when they appear too rampant by the handful here and there, roughly handling and tearing them apart as you do the weeds. In the latter end of September go to work at your bed in earnest, remove all the runners, and make such cultivation of the soil as its nature may require; if a stiff clay, a little digging around the hills may be necessary, and as cold weather approaches mulch them down for winter.

The effect of this will be that the plants in the hills, instead of the tussock-like appearance with large, dense, small stemmed and small leafed tops, we have a fine, open, spreading, youthful looking plant, with thick stems and large leaves, ready for the next bearing season, because it has not been concentrating its efforts to mature itself, but expending its efforts in a numerous progeny of runners. The foregoing has been my plan, and it has produced much better results in my hands than ever I could obtain from the plan of your correspondent, which I have also tried.

FRAGARIA.

Philadelphia, Oct. 12, 1865.

MUCK WATER.—AN EXPERIMENT.—

LOD BACON says, "to water it (the soil) with muck-water is not practiced," and yet I think it might be done with good effects, since the muck itself is held in a state of minute division by the water, and by its percolation, brought into immediate contact with the roots of plants. I, this year, made the following experiment:

Selecting three equal rows of Indian corn, about one foot in height, growing on a light sandy soil, I applied to the first row a liberal quantity of unleached ashes,—say

one half pint to the hill—to the next row I gave a dressing of strong barn-yard liquid manure, and the last row I "comforted" twice with muck-water.

I waited anxiously the result; and on harvesting, I found the three rows far superior to the remainder of the field. The row which received the ashes was the heaviest; that which received the muck-water came up very close to it, and that which had the liquid from the stable lagged behind.

The muck-water was taken from a trench from which peat had been thrown, and was nearly as black as ink.

Is it not possible, that, as in the days of Bacon, we still undervalue one of our most common fertilizing agents? But *verbis sat.*

E. NASON.

"*Brightside,*" *N. Billerica, Mass., Oct., 1865.*

In the May number of the *HORTICULTURIST* for 1863, *Horticola* says: Last fall, I planted six or eight hundred cuttings of the Delaware, the Diana, and a great many other kinds, and covered them up a little, induced by Mr. Fuller's advice. Next fall I shall faithfully report the result obtained.

Now we should have had that report a year ago, but I am very sure there has been nothing in regard to them in the *HORTICULTURIST* since. I am very anxious to learn how they succeeded, as I want to plant out some thousands of Delaware cuttings if it will pay. If they cannot be made to grow so as to make good vines, I do not want to go to the expense.

Very truly,

B.

PITTSBURGH, PA., October 19th, 1865.
MESSRS. EDITORS *HORTICULTURIST.*

GENTLEMEN,—I am about setting out a small orchard of Quinces, and seeing in your December (1862) number a mention of Rea's seedling as being of extra size and flavor, I take the liberty of writing to know where they could be obtained. Some time ago, I wrote to Mr. Rea, but never received an answer. I wrote also to Ellwanger &

Barry for it, but they knew nothing of it. If you cannot give the information desired, be good enough to ask your readers: also, if they know of the Chinese variety: how it will compare with the others, and where it can be obtained. A good and exhaustive article on Quinces,—varieties, modes of culture, &c.—by some one who has made a specialty of raising them, would, I think, prove very acceptable to a large number of your readers.

C.

HERBEMONT VINEYARD,
Warsaw, Ill., Nov. 6, 1865.

MESSRS. WOODWARD:

SIRS,—Inclosed find five dollars (\$5), for advertisement. I have sold all my vines, and could have sold ten times as many if I had them. I am very much obliged to you, and shall know where to advertise in future.

I hope to pay you more money for advertising next year than I have this.

Respectfully,

C. J. MAY.

MESSRS. EDITORS,—I do not think the Strawberry is fairly treated in the HORTICULTURIST. I mean we do not hear enough about it. There must be scores of readers who have tested, this present season, from six to sixty new kinds, and certainly some of them ought to have life enough to give their experience to the rest of us. We want to know what kinds are really best among the numerous new varieties; and in particular, want to know something about Alpine strawberries, raising plants from seed, &c.

J. M. M., Jr.

EDITORS OF HORTICULTURIST:

DEAR SIRS,—I have a piece of ground which I intend to plant in crab apples; it will take about 100 trees. I am unable to ascertain where I can get the best kind for making the best cider, and for good bearing.

You would oblige me by giving me information to whom I have to address myself,

and which is the best kind. Excuse the trouble.

T. S.

[WILL some one who has crab apples please let the public know?—ED.]

PENN-YAN, October 19, 1865.

MESSRS. EDITORS.—I have been very much interested in a bed of seedling verbenas. Although the seed was not planted until May 24th in the garden, yet we have had a remarkably fine show. The best seedlings, all things considered, I ever raised—of almost every shade of color, and some with very fine eyes, both light and dark. Last year I had a fine seedling, Magenta color, white eye, which unfortunately burned badly in the sun, and as it seeded very freely I saved the seed which produced this year almost every shade from pink to scarlet and even deep purple. But one of my greatest novelties, on account of size, is a verbena with, I think, the largest umbel I ever saw. It measures $1\frac{1}{2}$ inch across, while "the Banner" which is a good sized flower, measures 6-8. After I had finished planting my bed, I had some seed left which I scattered on the ground — no covering at all—and it germinated better than much of the seed which was planted, although I generally try to give a very light covering.

T. F. W.

THE CULTIVATOR AND COUNTRY GENTLEMAN, (weekly), Two dollars and fifty cents per annum. One of the best agricultural papers in this country. A paper that ought to be found in every farm house. It seems almost as absurd to argue in favor of every farmer taking an agricultural paper as to argue in favor of sunlight or fresh water; and yet, strange as it may seem, there are men to be found whose life-long occupation has been Agriculture, who have reasons to advance against taking or reading an agricultural paper. Public opinion is changing matters fast. The farmer who takes an agricultural paper, stands head and shoulders higher than his neighbor who does not. The latter drops back among the uninformed laggards of the day.

TUCKER'S ANNUAL REGISTER for 1866, now ready at this office, price 30 cents, post paid to any address. It contains about 130 engravings, and will be found as fresh and varied as any of its predecessors.

The previous numbers of the Annual Register, except numbers 1 and 3, for 1855 and 1857 (and these ought to be re-published at the earliest possible moment), can always be had. Complete sets on large and finer paper, in four handsome volumes, containing over 1,300 pages and 1,600 engravings, by mail, post paid, six dollars; or each volume sold separately at one dollar and fifty cents. A work of great value.

THE AMERICAN AGRICULTURIST.—Monthly, \$1 50 per annum. Messrs. Orange Judd & Co., the proprietors of this popular, well-edited and handsomely illustrated periodical, which occupies the front rank of prosperity and usefulness, have, we understand, purchased the "*Genesee Farmer*," with 20,000 or more subscribers, and united the two. By this arrangement, the editorial services of Mr. Joseph Harris are secured to the **AMERICAN AGRICULTURIST**, and they are thus enabled to offer increased attractions for the coming year. Mr. Harris, who is well-known as one of the most thorough, practical and accomplished agricultural writers in this country, will continue the articles which have added so much to his reputation: "Walks and Talks on the Farm." Harris' *Rural Annual* has also been purchased, and with the resources and talent of the office of the **AGRICULTURIST**, will be made a popular national publication.

THE SOUTHERN CULTIVATOR.—Athens, Georgia. Monthly, Two Dollars per annum. This, we welcome back to our exchange list, after an interval of four years, during which it has been regularly published.

We had the pleasure of several calls at our office recently, from Mr. Wm. N. White, publisher, who has been in this vicinity

several weeks, making his business arrangements.

We call the attention of our readers to this paper as worthy of confidence and patronage, and a thorough exponent of Southern agriculture, &c.

EIGHTH ANNUAL REPORT of the Board of Commissioners of the Central Park.

THE FARMER.—Richmond, Virginia.—A new monthly journal, commencing in January, 1866, and devoted to Agriculture, Horticulture, the Auxilliary Mechanic Arts, and Household Economy. Three Dollars per annum. The projectors promise that "the best talent, both practical and theoretical, which Virginia affords, will be commanded in aid of this enterprise, and no expense will be spared in the effort to make the journal complete in all respects." Messrs. Elliot & Shields, of the *Richmond Whig*, publishers.

GRAPE CULTURE in Steuben County, N. Y.—Premium Essay.—From Col. R. P. Johnson, Secretary New York State Agricultural Society, Albany, N. Y. Crooked Lake is in Steuben county, and the western shore of this lake has become a famous locality for vineyards. This essay gives full description of the lands, mode of culture, &c.

THE SCIENTIFIC AMERICAN.—Weekly, Three Dollars per annum; Munn & Co., 37 Park Row, N. Y. Across the hall from our office are the publication rooms of this valuable standard journal; a journal that we name as a model of editorial talent and ability, and of typographical beauty and excellence. We consider it one of the most valuable publications of the day, and we earnestly recommend it not only to our readers, but advise them also to call the attention of their neighbors and friends to it. Every inventor, engineer, mechanic, farmer and apprentice should take it at once, and the general reader who omits it, fails to keep up with the improvements of the age.

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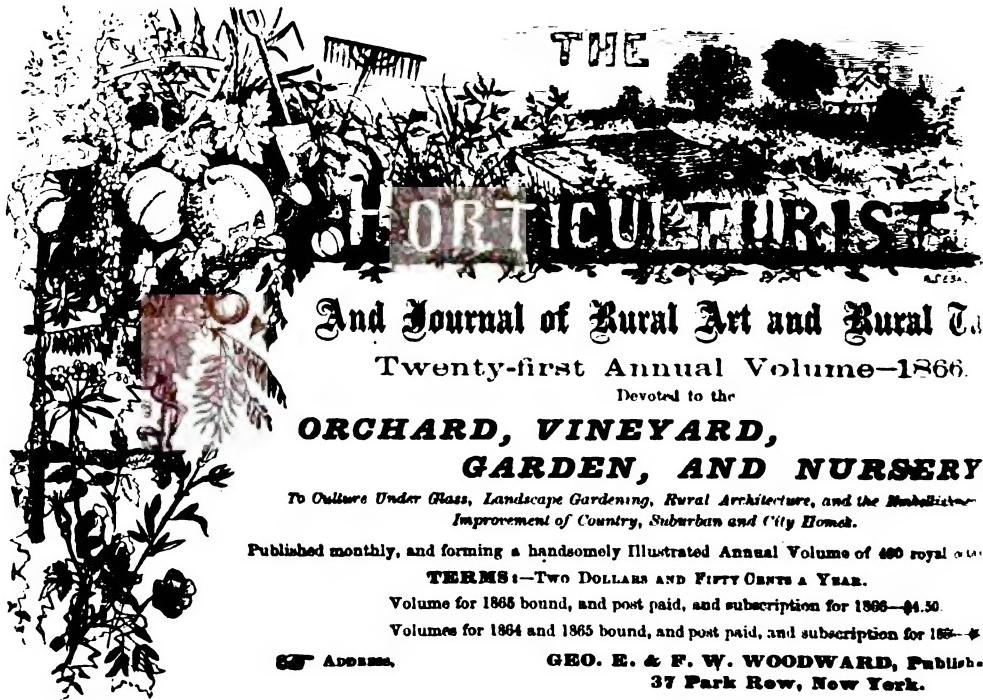
The Vines have all been staked, tied from time to time as they required it; Laterals pinched back, and the ground wholly free from weeds.

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Sept. 5^t



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Notice a few of the many letters we receive, speaking in the highest terms of our vines.
GALESBURG, KNOX Co., Ill., April 17, 1865.

Messrs. Wm. Perry & Son, Gentlemen—The box of Vines you sent me, came to hand on the 18th inst. On opening it, I found the contents in fine order. Damp and moist, the Concord exceeded my most sanguine expectations. I never saw so many and such long roots of yearling vines before. The members of the Club appeared to be pleased with their vines.

Yours truly,

S. S. WHITE.

SHIRLEYSBURG, Pa., March 31, 1865.

Messrs. Wm. Perry & Son, Gentlemen—The Vines came to hand all safe, and, without a doubt, they are the strongest and healthiest vines I ever purchased, and I have bought of quite a number of nurseries, but none have compared with your vines. I am very sorry I did not purchase of you two years ago this spring. Yours, truly,

Oct.

WM. A. FRAKER.

TERRE HAUTE, Ind., April 9, 1865.

Messrs. Perry & Son, Dear Sirs—Enclosed please find draft on New York for \$136, for amount of your bill. The Grape Vines came to hand in due time. The vines are fine plants and I am well pleased with them. Your vines must be fine for the grape. I thought I could raise the best plants in my soil of almost any other place; and yours is the first that I have ever seen that would compare favorably with them. Your vines are good enough for my purpose. Yours respectfully,

WM. PATRICK.

IOWA CITY, Iowa, July 20, 1865.

Messrs. Wm. Perry & Son, Gents.—Your Price-List for fall of 1865 is at hand. The vines you sent me last spring were very fine. Some are bearing this summer. I want 50 for fall, 50 Iona, 25 Israella, 25 Adirondac No. 1 vines.

Yours, truly,

L. KAUFFMAN.

JANUARY 1866.

Address 116,

ESTABLISHED IN 1833.

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and Rural Taste.

GEO. E. & F. W. WOODWARD, Publishers, 27 Park Row, New York.

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VOL. 21,-----1866.

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THE
HORTICULTURIST.

VOL. XXI.....JANUARY, 1866.....NO. CCXXXV.

ON NOT DOING ALL AT ONCE.

THERE are a great many ardently progressive people who will be shocked by the action under which I write. The current American theory is, that if a thing needs to be done, it should be done at once,—with all-road speed, no matter whether it regards politics, morals, religion, or horticulture. And I wantonly take the risk of being condemned for an arrant conservative, when I express my belief that there are a great many good objects in life which are accomplished better by gradual progression toward them than by sudden seizure. I shall not stay to argue the point with respect to negro suffrage, or female suffrage, a temperance reformation, or the clearing-out of Maximilian's Mexican Imperialism,—which are a little removed from the horticultural arena, where our humbler questions are discussed,—but I shall urge graduation and culmination of triumphs what relates to rural life and its charms. One meets, from time to time, with a gentleman from the city, smitten with a golden rural fancy, who is in eager search

for a place "made to his hand," with the walks all laid down, the entrance-ways established, the dwarf trees regularly planted, the conservatory a-steam, and the crocheted turrets fretting the sky-line of the suburban villa. But I never heard of any such seeker after perfected beauties who was an enthusiast in country pursuits, or who did not speedily grow weary of his phantasy. He may take a pride in his cheap bargain; he may regale himself with the fruits and enjoy the vistas of his arbor; but he has none of that exquisitely-wrought satisfaction which belongs to the man who has planted his own trees, who has laid down his own walks, and who has seen, year after year, successive features of beauty in shrub, or flower, or pathway, mature under his ministering hand, and lend their attractions to the cumulating charms of his home. The man of capital, who buys into an established business, where the system is perfected, the trade regular and constant, the details unvaried, may very possibly congratulate himself upon the security

of his gains; but he knows nothing of that ardent and intoxicating enthrallment which belongs to one who has grown up with the business—suggested its enterprises—shared its anxieties, and by thought, and struggle, and adventure, made himself a part of its successes.

A man may enjoy a little complacency in wearing the coat of another, (if he gets it cheap,) but there can't be much pride in it.

Therefore, I would say to any one who is thoroughly in earnest about a country home—make it for yourself. Xenophon, who lived in a time when Greeks were Greeks, advised people in search of a country place, to buy of a slatternly and careless farmer, since, in that event they might be sure of seeing the worst, and of making their labor and care, work the largest results. Cato,* on the other hand, who represented a more effeminate and scheming race, advised the purchase of a country home from a good farmer and judicious house-builder, so that the buyer might be sure of nice culture and equipments,—possibly at a bargain. It illustrates, I think, rather finely, an essential difference between the two races and ages:—the Greek, earnest to make his own brain tell, and the Latin, eager to make as much as he could out of the brains of other people.

I must say that I like the Greek view best. I never knew of an enthusiast in any pursuit,—whether grape growing, or literature, or ballooning, or politics,—who did not find his chiefest pleasure in forecasting successes, not yet made, but only dimly conceived of, and ardently struggled for. The more enthusiasm, the more evidence, I should say, in a general way, of incompletion and apparent confusion.

Show me a cultivator, whose vines are well trained by plumb and line, whose trees are every one planted mathematically

in quincunx order, whose dwarfs are all clipped and braced after the best pyramidal pattern, and I feel somehow that he is a fashionist, that he reposes, upon certain formulas beyond which he does not think it necessary to explore. But where I see, with an equal degree of attention, irregularity and variety of treatment,—tendrils a-droop and fruit-spurs apparently neglected,—I am not unfrequently impressed with the belief that the cultivator is regardless of old and patent truths, because their truth is proven, and because his eye and mind are on the strain toward some new development.

When a good, kind horticultural gentleman takes me by the button-hole, and tells me by the hour, of what length it is necessary to cut the new wood in order to insure a good start for the buds at the base, and how the sap has a tendency to flow strongest into the taller shoots, and other such truisms, which have been in the books these ten years, I listen respectfully, but cannot help thinking,—“my dear good sir, you will never set the river a-fire.”

Nor indeed do we want the river set on fire; but we want progress. And all I have said thus far is but preliminary to the truth on which I wish to insist—that a graduated progress is essential to all rational enjoyment, whether in things rural, christian, or commercial.

And for this reason I allege that all things which are proper to be done about a country house, are not to be done at once. Half the charm of life in such a home, is in every week's and every season's succeeding developments. If, for instance, my friend Lackland, whose place I have described in previous papers, had found a landscape gardener capable of inaugurating all the changes I have described, and had established his garden, his mall, his shrubberies, and had made the cliff in the corner nod with its blooming columbinea, within a month after occupation, and established his dwarf pears in full growth and fruitage, there may have been a glad surprise; but the very com-

*I shall make no apology for the introduction of these two heathen names, since both authors have written capitally well on subjects connected with husbandry and rural life.

plete ness of the change would have left no room for that exhilaration of spirits, with which we pursue favorite aims to their attainment. No trout-fisher, who is worthy the name, wants his creel loaded in the beginning; he wants the pursuit—the alternations of hope and fear; the coy rest of his fly upon this pool—the whisk of its brown hackle down yonder rapid—its play upon the eddies where possibly some swift strike may be made—the sway of his rod, and the whiz of his reel under the dash of some struggling victim.

It is a mistake, therefore, I think, to aim at the completion of a country home in a season, or in two, or some half a dozen. Its attractiveness lies, or should lie, in its prospective growth of charms. Your city home—when once the architect, and plumber, and upholsterer have done their work, is in a sense complete, and the added charms must lie in the genial socialities and hospitalities with which you can invest it; but with a country home, the fields, the flowers, the paths, the hundred rural embellishments, may be made to develop a constantly recurring succession of attractive features. This year, a new thicket of shrubbery, or a new gateway on some foot-path; next year, the investment of some out-lying ledge with floral wonders; the season after may come the establishment of a meadow, (by judicious drainage) where some ugly marsh has offended the eye; and the succeeding summer may show the redemption of the harsh briary up-land that you have scourged into fertility and greenness. This year, a thatched rooflet to some out-lying stile; next year, a rustic seat under the trees which have begun to offer a tempting shade. This year, the curbing of the limbs of some over-growing poplar; and next year,—if need be—a lopping away of the tree itself to expose a freakish beauty in the shrubbery beneath. Most planters about a country home are too much afraid of the axe; yet judicious cutting is of as much importance as planting; and I have seen charming thickets shoot up into raw, lank

assemblage of boles of trees without grace or comeliness, for lack of the courage to cut trees at the root. For all good effects of foliage in landscape gardening,—after the fifth year—the axe is quite as important an implement as the spade. Even young trees of eight or ten years growth,—which stool freely,—(such as the soft maple, birch, chestnut and locust,) when planted upon declivities, may often be cut away entirely, with the assurance that the young sprouts within a season will more than supply their efficiency. Due care, however, should be taken that such trees be cut either in winter or in early spring, in order to ensure free stooling or (as we say) sproouting. The black birch, which I have named, and which is a very beautiful tree,—not as yet, I think, fairly appreciated by our landscapists—will not stool with vigor, if cut after it has attained considerable size; but the saplings of three or four years, if cut within a foot of the ground, will branch off into a rampant growth of boughs, whose fine spray, even in the winter, is almost equal to its glossy show of summer foliage.

I do not know if I have made my case clear; but what I have wished has been to guard purchasers, who are really in earnest, against being disturbed or rebuffed by the rough aspect of such country places as commend themselves in other respects. The subjugation of roughness, or rather, the alleviation of it by a thousand little daintinesses of treatment, is what serves chiefly to keep alive interest in a country homestead.

Some old wall is to disappear one month; an unsightly patch of ground is to be healed the next month; some capital spot for propagating purposes is to be trenched another month. Thus every sun brings its prospective delights and treasures.

I must say, for my own part, that I enjoy often for months together, some startling defect in my grounds—so deep is my assurance, that two days of honest labor will remove it all, and startle on-lookers by the change. Thus, if I am not greatly mistaken

we are accustomed to regard some favorite sin—thinking with ourselves—it will be so easy to mend *that*, so simple to reform it all; and we go on coddling the familiar pipe, or glass, or the trifling stretch of our credit, meditating with high glee upon the profound satisfaction with which we will come down upon it all some fine morning—as farmers do, by spasms, upon their weed patches. But (and herein lies the excellence of the rural activities I commend) we keep the sins green and growing, and the sweep never comes;—while the old wall, and the riotous weeds are one day whisked away under the besom of a new purpose, and the change is magical, inspiring and exhilarating.

I don't mean to say the conquest of a favorite sin would be any the less so; I only mean to say, that your chances of making the conquest are far less.

An horticultural writer, to be sure, has no right to talk on such topics;—"let him keep to his weeds"—you say. And I will.

But let no rural enthusiast hope to uproot all the ill-growth, or to smooth all the roughnesses in a year. He would be none the happier if he could. We find our highest pleasure in conquest of difficulties.—And he who has none to conquer, or does not meet them, must be either fool or craven.

Edgewood, Dec., 1865.

HOW TO REMODEL AN OLD FARM HOUSE.

BY GEO. E. WOODWARD, AUTHOR OF "WOODWARD'S COUNTRY HOMES."

We never build a house for our own use, but what somebody fancies it. Just as soon as we are comfortably settled, our roads in fine order, our lawn in handsome shape, vines, flowers, trees, &c., growing, it captivates some one. Accidentally naming a price for our former home, before we had time to reflect, it became the home of another. Adjoining the property thus sold, was a six acre tract, and on it an old stone farm house, whose foundations were laid a century ago. On the broad and ample

hearth the fire blazed before the Revolution, "In old colony times, when we were under the king." The massive walls two feet thick, were as solid as the day they were laid, the timbers and floors staunch and good for a century to come; but all else gave evidence of the wear and tear of time, the shingles were literally worn through, and all exposed wood-work in a state of dilapidation. It might be termed a very hard subject.



FIG. 1.—*View of the old Farm House.*



FIG. 2.—*Plan of the old House.*

Making up our mind at once, what could be done with it, we made the purchase and

took possession, surprising the owner even more than we were surprised.

Those who are suddenly turned out on the world, in these days of scarce houses, or rather no houses, can appreciate such circumstances.

The main building, as represented by the heavy walls in the plan, we modernized only so far as to make it useful, and to harmonize with the necessary additions.

In the parlor was retained all the original

features: a moderately low ceiling, the old fire-place, four by six feet, each jamb a solid block of stone, and the deep windows, with twenty-four panes of glass. The only change in the exterior was to project the cornice two feet on all sides, and to construct the Dormer window to light the hitherto unfinished attic. A chimney was added, and the roof entirely reshingled.

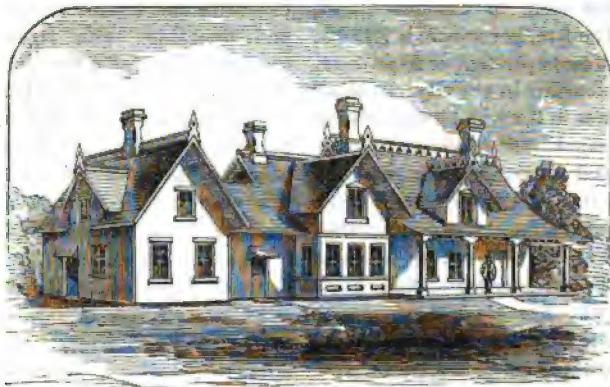


FIG. 3.—The old Farm House Re-modelled.—Residence of Geo. E. Woodward.

The first addition containing the dining-room was changed, by putting a spacious bay window on the front, which was carried up, and covered by the centre gable, thus giving a convenient, pleasant room above; this, some day, can be again raised, and converted into a tower, giving greater variety to the sky-lines, and but for a single hill, affording a view of the

domes and spires of seven cities, and the passing trains on six different lines of railroads. The kitchen apartments were entirely reconstructed, with cellar, &c., and so arranged that they may be occupied independently by the gardener and family, if we choose to lock up the house and spend the winters in New York.

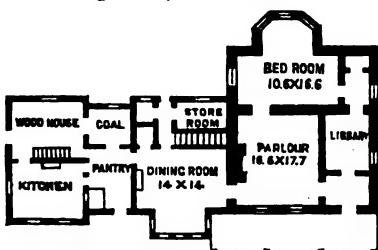


FIG. 4.—Plan first floor improved.

If we had been required to draft such a ground plan as is shown, we should have advanced several objections, but a practical use proves it to be exceedingly convenient, comfortable and satisfactory; and it is often the case in rearranging and adding to

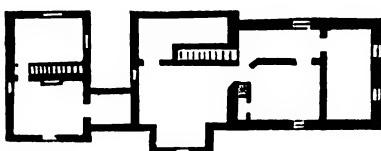


FIG. 5.—Plan of second floor.

old houses, that plans are developed that prove to be better than most that are devised for new buildings.

The plan of the grounds and the changes made we will show in our next number.

Boiling Spring, New Jersey, where this

house is located, is situated on the Erie Railway, ten miles from the City Hall, New York, on high ground, being on the dividing ridge between the Hackensack and Passaic rivers. The Erie Railway run their "broad gauge palace cars" almost hourly each way, over a double track, straight and level. Twenty-four minutes is the running time to Pavonia ferry, and fifteen minutes more to Chamber-street, New York. The fare, per annum is \$49.75., which is eight cents per trip, or 20 per cent. less than omnibus fare in the city. To those who do business in town and love to live in the country, rapid and convenient access is necessary, and a double track national highway, like that of the Erie road, with its immense resources, affords facilities more reliable than any existing between the upper and lower portions of New York city. Those who live above 30th street, are more remote from business; and before any of the northern and eastern lines of railroad get clear of the city, we are fairly at home in the country. Whoever wishes to verify this statement, should cross the Pavonia ferry from foot of Chamber street, New York. If a traveler of some experience, and so fortunate as to take the train drawn by engine No. 7, you will soon discover there is a master hand on the throttle valve, and that the conductor is the right man in the right place. Twenty-four minutes precisely, and the Boiling Spring Station is reached. The station-house is the prettiest one of its size in the United States, finished

throughout in hard woods, oiled and varnished, with roof laid in bands of colored slate; has telegraphic communication with all the rest of the world, and an attentive and obliging agent. If you expect to see a village, or even the beginning of one, you will be disappointed. You have landed in a quiet country locality, where the land is good, high, rolling and handsome; views extensive and beautiful; situation healthy, and desirable; fine farms, magnificent springs, good roads, &c.; but had one been dropped down blindfolded, the wisest head would have been puzzled to say whether he was ten miles or one thousand from the pulsating heart of the great Metropolis. The place has been overlooked; the railroad was built 35 years ago, before the days of commutation travel. Those who own the property say nothing about it; the world wags on, we live in rural privacy; the din of business hours is enough. But farming life, half an hour from Broadway, cannot last always. New York is overflowing; the fever-nests are full and life too short to travel *Spryten-Deyvel-ward*, daily, in a horse car. Yes, citizens of New York, you have had your fun out of New Jersey, but your overflowing thousands will have to go there, where thousands of your business men now go to and fro daily. More than all the avenues of travel convey in other directions, Brooklyn excepted, where better land can be had for one-fourth the money, and where you can live as well for one-half the price.

MY NEIGHBORS AND MYSELF.

BY THE AUTHOR OF "TEN ACRES ENOUGH."

THE little, unpretending domain upon which I have been contentedly operating for several years, lies within five minutes' walk of the gas lights and the post office at Burlington, New Jersey. The trains upon the great railroad pass hourly within sight of my door, rattling every window in

the house, and giving constant cause for wonder as to where so many people can be going to. It fronts on what was once the old royal highway, the first great thoroughfare laid out in colonial days, to facilitate communication between the sea-shore settlements. The last twenty years have revolutionized

its condition, as well as the appearance of the country through which it passes. It is now a gravelled turnpike all the way from Burlington to Camden. The road bed is level, smooth and hard, almost equaling a tenpin alley, and superior to any race course. A dash of iron contained in the gravel, imparts to it a remarkable solidity. It is so well cared for by its owners, that a bad road is altogether unknown. Its construction has doubled the value of every farm upon its track. Everywhere it is lined with improved dwellings, better fences, finer orchards, and more productive fields. Loaded wagons roll over it by aid of a single horse, where two were formerly required, and the pleasure carriages of the neighboring gentry invariably select it for an evening drive. There could be no more convincing illustration of the transformation in improvement and population which follows the creation of a superior road. It draws old settlers from remote neighborhoods to locate upon it, and with strangers looking for a lodgment it is the determining element which fixes their choice. Thus population clusters about it; and as it is population that gives value to land, so as that thickens do values increase.

My neighbors on this favorite thoroughfare have been far more careful of the outside finish of their farms than myself. They put up fancy fences, establish gravelled avenues, and crowd their lawns with evergreens and shrubbery; and even in these days of extravagant prices, are profuse consumers of paint and whitewash—all this, moreover, without having an acre to sell. Still, while these really cheap embellishments are introduced, they attend with wonderful assiduity to their farms, using fertilizers in prodigious quantities, and harvesting huge crops of everything for which the two great cities are clamoring daily. Long practice has taught them what pays best. They raise corn and wheat enough for home consumption, and strain every nerve for crops of fruit and early vegetables. The successes of some of these men are truly

remarkable, and they can afford to make their homesteads attractive.

I have done but little at embellishment. The useful, the practical, have occupied most of my time and attention. One may have abundance of taste, and long as keenly as his neighbors for the ornamental, without being ready to indulge in it. Hence my extensive front upon the road has received no tasteful touches such as my neighbors have long since given to theirs. But even *my* time is coming. An adjoining swamp of a few acres has been added to my ground, not because ten were not really enough, but because it was a neighborhood nuisance, grown up, since the foundation of the world, with ferns and skunk root. Some patriot must abate it, and why not devolve the task on me? It is now, after three years' labor and attention, drained, filled in, and producing, on a four feet deep foundation of clear peat, a strawberry crop which annually refunds the entire cost of reclamation. Drought never pinches the plants, and manure is wholly unnecessary. Wherever the raspberries come within reach of this deep, rich, and ever moist deposit, the growth of canes may be said to be amazing. My Philadelphias, thus situated, have been the admiration of all who have examined them. It has been a great success, though it drew down upon me the hearty pity of my neighbors, as they drove by and noticed my incomprehensible beginning; but now, when fully completed, securing their equally hearty commendation.

It is success that makes one famous, even in ditching. Thus, they consider me a sort of swamp hero. So strong is the imitative faculty in man, that I even hear that some of them are thinking of reclaiming little bogs of their own. Some have consulted me quite seriously as to the cost of such an operation, as they are now disposed to consider me something of an authority on the subject of pitching dirt. Little confidences of this kind are extremely flattering to one's pride, the more especially

after having persevered, in the face of innumerable warnings that the improvement wouldn't pay. But the truth is, that the cost of reclaiming even a stubborn swamp is not so serious a matter as is generally supposed. I am inclined to think that the doing of it will find favor in the eyes of all who once undertake it. It is true the mud may stick to one's garments, but sticking to the mud will be found to pay. Nearly all this work of repairing these waste places of the earth was done during winter, when there was nothing else on hand. In this genial climate, we have but few snow storms, and can plow, at brief intervals, throughout the winter. The Indian summer stretches itself, with grateful attenuativeness, all through December. In the dead of winter we may encounter a cold snap of a few days, sometimes of a week, but rarely longer. Then comes a thaw which loosens everything by extracting the frost, and then out-o-door work is resumed. We survive the winter without suffering, and at the earliest singing of the blue bird we begin the regular spring varieties of planting.

Such a neighborhood, as may be supposed, is very thickly settled. One never hears of the sheriff being called in to sell a farm, except his action is necessary to unravel some domestic difficulty. I can hardly call my neighbors horticultrists, yet all of them are famous fruit growers. Some have risen from the humblest beginnings, and are now owners of noble farms, with spacious buildings, and are annually loaning money on mortgage to others of the craft, whose feet are only on the bottom round of fortune's ladder. Not more than half cannon shot from me is one of these self-made men. Nine years ago he was a journeyman shoemaker, in our city, with health so feeble that he would soon have died if much longer confined to the close atmosphere of the workshop. Breaking away from it, he took up a few acres of only half improved land, without a shed upon it, running in debt for almost every

thing, and struck out largely into strawberries. But character was capital, for whenever a helping hand was needed, he could find one by merely reaching his own across the nearest fence. He prospered hugely in every way, though having everything to learn. Renewed and vigorous health came bravely to his aid; he worked intelligently, having a passion for both fruit and flower, crops were consequently good; prices were even better, and he has gone on prosperously to independence. New and beautiful buildings, surrounded with shade trees of his own planting, now give elegance and grace to what, ten years ago, was covered with the débris of a pine clearing. Like most of us, the passion for more land seized upon him, and he has gone on absorbing the adjoining fields, until he now counts fifty-five acres. But here he wisely paused. Every inch of it is paid for, and he is lending to others, who in their turn are beginners. A ramble over his beautiful fruit farm would teach an instructive lesson even to the most extensive fruit grower, while to pioneers it would be invaluable. There are thirteen acres of strawberries, ten of blackberries, and six of raspberries, with peaches in abundance, and great fields of asparagus. His gross annual receipts are nearly five thousand dollars. Temptation to part with this productive home has repeatedly been presented in the shape of an enormous price, but the family turns a deaf ear to all seduction. They are happy on a home of their own creating; there their children were born; there the father renewed his health; there the mother is supremely contented; and how could they be bettered by selling? In this world, mere money is far from being the only good.

Another, a young man of six-and-twenty, rejoices in the ownership of fifty acres, all which, except the small mortgage yet remaining on it, is the work of his own intelligent industry. His forte, also, is the berry culture, interspersed with corn for his own use, melons, truck, and peas for

the Philadelphia seed stores. There is, moreover, an extensive trellis which is annually loaded with the Isabella grape. Until tasting these this fall, perfectly ripened as they were, I never knew the Isabella grape was fit to eat. Struck with the admirable flavor of the fruit, as well as with the perfect condition of each particular grape. I inquired why the fruit of these vines was so remarkably fine. The owner smiled as he told us that the earth around the roots was the general burial ground for all the cats, and dogs, and pigs, and mules, and horses which had there shuffled off their mortal coils since he had been upon the farm. What marvellous elaboration there is in nature, I concluded—"from seeming evil still educating good." Try as one might, he could detect no twang of pork, not the faintest flavor of a mule steak.

Only this summer a stranger from the bleaker climate of New England, went over his farm and offered to buy. While debating pros and cons, his visitor inquired as to the gross amount of his sales the previous year. He was unable to answer, having kept no books, nor could he even conjecture the amount.

"But," said I, "you owe a mortgage on your farm?"

"Yes," was the reply, "four thousand dollars."

"Were you able to reduce the amount last year?" I inquired.

"Oh, certainly," he answered, as if it were a matter of course. "I paid five hundred dollars in July, then three hundred more, and I think, three hundred more."

"How about the present year?" I continued.

"Why, Sir, in July I paid five hundred, and with what cash I have, and the remainder of my crops, I shall make another equal payment at new year."

"Do you mean," added the New Englander, "that you kept your family, maintained the condition of your farm, and paid

off a thousand dollars of your mortgage without going into debt somewhere else?"

"I do," was the reply, "and in three years, my farm will be clear."

Taking out a pencil, we figured it up that this farm was clearing nearly ten per cent. of its estimated value, after keeping the family of the owner. There seemed to be no getting over the facts, for he was known among us as a sincere and truthful man. Thus, though keeping no record of his crops, yet the mortgage he owed was the great account-book in which every man had posted up the true balance sheet of his business. Brought up to that test, his operations became perfectly intelligible. Since this interview I have seen his crop of seed peas, raised for a city retailer, and learned that it produced him very nearly six hundred dollars.

But in the lottery of this horticultural life, there are blanks as well as prizes. Not many minutes' ride from me is a gentleman of education, possessed of a fine horticultural taste, who anchored himself some three years ago upon a farm of forty-six acres, directly on the level turnpike referred to. His hobby was the fruit culture; but, considerably advanced in life, he has discovered, that for one of his years, he has too much land. Ten acres, he believes to be enough, at least for him. Yet the enthusiasm with which he began continues unabated, and he grieves over the prospect of selling. His predecessor also, was not deficient in taste. Between them there are no less than four hundred of the choicest pear trees in bearing, peach trees by the hundred, all the best blackberries by the acre, strawberries and raspberries in large quantities, with apple trees, and very productive grape vines. Just behind the dwelling is a natural spring, which fills a pond containing fish of various kinds, and which a fortnight's labor would convert into a pond quadruple the present size.

There is a boat upon it, and a grove of pines, covering an acre, runs down to the margin of the pond, a charming feature of

the summer landscape. Few places can be found in this region which a small expenditure would convert into a more delightful retreat. Better, perhaps, than all, there is an inexhaustible bed of superior muck, easily and cheaply obtained, with which the whole farm could be fertilized to the highest point of productiveness. Yet all these rare facilities have been left comparatively unappropriated because the owner has too much land. Instead of a gross product of some three thousand a year, he shall have half as much more. It is a broad foundation he has laid, on which whoever succeeds him may build to any reasonable height. If to him his farm has proved a comparative blank, to a younger and more driving man it will yet prove a brilliant

prise. But having discovered the extent of his capacity as a manager, he is content to give way, and instead of half cultivating a large farm, intends to convert a small one into a perfect garden spot.

I know that little bits of personal gossip of this character are somewhat out of place in the classic pages of *The Horticulturist*; but one always likes to know what his neighbor is doing. The scientific gentleman, who, in speaking of the artichoke, must call it *Helianthus tuberosus*, will doubtless smile over these homely details of New Jersey life, and wonder at the simple, though successful lives we are living. But a true picture, be it never so homely, will nevertheless possess a certain interest with the masses.

GRAPE IN 1865.

BY A. S. FULLER, AUTHOR OF FULLER'S GRAPE CULTURIST.

ROTTED badly; mildewed some; very poor; rose-bugs played the mischief; excellent in our section, and brought a good price.

The above, I believe, is a fair report of the grape crop of 1865.

Shall I attempt to locate these reports? if so, I fear that some of the much lauded *natural grape lands* and situations would be found among the "rotted badly." How is it, in those wonderful locations, where land is so cheap, and vines grow so rapidly, and produce such prodigious crops, that ordinary vineyards pay a profit of fifteen hundred dollars per acre the third year after planting, *provided the mildew don't come, or a late spring frost don't cut off the blossoms, or the very severe winter did not kill the fruit-buds?*

I do not wish to be partial, therefore I have thought best to give a list of excuses usually made by the grape growers of these peculiar regions, that are said to have been made especially for vineyards. Here, down east, on the Atlantic slope, grapes grow in

soils, which, at the creation, were not intended for such a purpose, consequently we have very little trouble with grape rot, late spring frosts, or winter killing of the fruit-buds.

Occasionally, a few leaves are attacked by mildew, or a stray Catawba, (which originally came from one of the more favorable regions,) shows a few grapes with the black rot.

I believe that the only disease that is at all fatal to the grape, east of the Alleghanies, is one that is also often found west of them, viz: neglect. Vines that are properly pruned and cultivated seldom fail to produce a good crop; not always a crop of good fruit, for there are but few varieties which can be called good. And I think it is time for our eastern vineyardists to try and decide which are the best varieties of our native grapes,—not which varieties succeed best, for there are but few that will not succeed if properly cared for.

Please remember that I am speaking of localities that have not been surveyed and

offered for sale as grape lands, but such as can be found almost anywhere within one or two hundred miles of the Atlantic coast from Massachusetts to Georgia.

And there are thousands of acres of as fine grape lands within fifty or a hundred miles of New York city, as there is in the United States, and cheaper than they can be had anywhere else in the world, all for less than it cost to make the improvements now on them. So my young friend, if you want to plant a vineyard, and have but little capital to begin with, just take a look in New York, New Jersey, Pennsylvania, Maryland, or even Delaware. But if you have capital, and wish to spend it in clearing up new lands, far away from market, go west, by all means, and spend it.

Really, is it not time that this theory of particular locations for grape growing was checked? or to put it in another shape: cannot grapes be grown profitably, except in localities where Mr. X or Y has accidentally or purposely planted a vineyard, and by proper care made it produce a fine crop, and then come to the conclusion that it must be all in locality and soil? Consequently, land goes up in the vicinity, and plenty more of the same kind is for sale at five times of its real value.

Will not grapes grow over as wide an extent of country as apples or pears?—certainly. Will they not grow in as great a variety of soils? If any one doubts it, let him travel over the country and see in how many different situations and soils he can find vines growing luxuriantly.

That some soils and situations are more favorable than others, no one will deny; but that there is such a great difference as fashionable grape culture at the present day would have us believe, I, for one, doubt.

But the question arises, what shall we plant? This question is difficult to answer, because we have so many that are good. For my part, I would not hesitate to plant for *profit* any of the following: Delaware, Iona, Isabella, Concord, Creveling, Hartford and Rogers' Nos. 8, 4, 15 and

19. If this is not variety enough, you may add Adirondac, Clinton, and Isabella.

Among the newer varieties, we shall probably get some that will prove equal, if not superior, to any of the old ones.

I am much pleased with Moore's new hybrids, as they show more distinctly that they are hybrids than anything we have before seen. If the Diana Hamburg proves to be hardy and does not mildew, I certainly shall give it the preference over anything I have seen among the hardy grapes. Mr. Moore has also several others that give promise of great excellence, among which is Moore's Black, Clover-street Black, &c.

Iona must look well to her laurels, or Clover-street, Rochester, will make a call for them some of these fine days.

I regret to say that the Renselaer grape, that I mentioned in my last, has proved to be *Isabella*. After traveling some two hundred miles to see a new grape, and there find old mother *Isabella*, instead of a fine young miss, it's too bad, but this old lady is always to be met when and where she is not wanted.

I think this was the twenty-fifth time that I have met her under like circumstances, and it only goes to prove that she dresses very differently in different parts of the country, just to suit the climate.

The Fancher was excellent again this year, and will have to be admitted as distinct from Catawba, as it grows and ripens well at Lansingburgh, N. Y., where the Catawba does not succeed. F. B. Fancher, of the above place, is indefatigable in hunting up the new fruits in his region. He has lately discovered another which he calls Saratoga, a large red grape of the Catawba flavor, but fine.

The Maguire is another new variety of the Hartford Prolific style, but will probably be too foxy to go among the good varieties.

Aiken grape, of which so much has been said at the West, is Isabella; Richmond, is Isabella; German grape from Indiana, is Clinton; Emma, another new and wonder-

ful grape, is Catawba, or so near like it that I cannot see the difference.

Haskel, from Michigan, is Concord; but really, Meears. Editors, I must drop my pencil, or I shall hurt somebody's feelings, and prevent some enterprising fellow making

a few thousands out of some old variety with a new name. But how can one write about grapes without hurting somebody, especially when mixed up in grape culture?

Woodside, Dec. 1st, 1865.

WHAT NOT TO DO.

BY PETER HENDERSON, JERSEY CITY, N. J.

I HAVE long believed that more real good is often done to the novice in the cultivation of the soil, by telling him what not to do, than by telling what to do. Agriculture and Horticulture are prolific of charlatans. I know not whether it is so in other departments of trade; but, if so, a great part of the industry of the world must be wasted in labor worse than useless.

A rascal of a tree peddler, not content with victimizing a poor farmer near me in the sale of two hundred worthless apple trees, added still further to the injury by inducing him to put a bushel of stones in the bottom of each hole for drainage; which was done at an expense that the poor man was ill-able to bear. I need not tell your intelligent readers that the advice had better not been given. Apropos to this subject is the so-called draining of plants grown in flower pots, almost universally practiced by amateurs and private gardeners, and recommended carefully in detail by nearly all writers on green-house plants. Now, in the face of all these hosts of instructors, I contend that this practise is not only useless, but something worse, as it robs the plant of just so much soil as is displaced by the drainage (?) without benefitting it in any way whatever. Yet, such has been the practice of thousands for a century, each one following the lead of his predecessor, stupidly and blindly, as we think.

This practice has long been discontinued by all the large nurserymen and florists in the neighborhood of New York, who it is

well-known grow plants equal to any in the world. This is another negative item. Again, when some of your lady readers, in trying to increase by slips the number of some favorite geranium, rose, carnation, or fuchsia, turning to the "book" for instructions, she finds herself bewildered by a score of conditions that has got no more to do with the successful result of her operation than the man in the moon; but she naturally enough ascribes her want of success to the "want of silver sand," or "not having cut at the right joint," or "not having held the cutting by the right finger and thumb," or some such nonsense as the writer has laid down as necessary to success.

Or a farmer or gardener, whose experience and practice has been confined within the bounds of his own fence, sees under a hot July or August sun, the leaves of his cabbage or cauliflower crop "wilt." Past experience tells him what's the matter: the plants have become club-rooted, and he knows that all his labor and expense in getting the crop to this stage is lost, or nearly so, and he looks around (as he has often done before, but without success,) for the cause.

He is again at fault, but goes and consults with a new neighbor who is already renowned for being a savant in all such matters. The case is simple, for the adviser is deep-read in horticultural lore, and it is too often repeated to be easily forgot by him, that club-root is caused by the use of manure from the hog-pen; and it so hap-

sens that his advice-seeking friend did allow his pigs to run over his manure heap, and they at once jumped at the conclusion that this is only another corroboration of the popular belief.

I will state that our large experience in the cultivation of cabbage and cauliflower

for market, has well proved to us, that this, in common with many other horticultural dogmas, is an error; and that "club-root" is assignable to another cause. But as this is only a negative article, I will give you mere positive information on club-root in my next.

THE LONGEVITY OF TREES.

BY REV. A. D. GRIDLEY, CLINTON, N. Y.

We do not introduce this topic with the expectation of being able to say anything new to scholars, but in the hope of suggesting an agreeable train of thought to those who have not hitherto given the subject much attention.

How long do trees live? or rather, how long would they live, if not accidentally injured; if disease did not invade them, or if they did not fall by the woodman's axe? Might they not live forever? Is there a necessary limit to their existence? The common opinion is, that like the animal races, they have their periods of infancy, youth, maturity, decline, and old age. They die not by accident, but in obedience to certain original laws of their being; their cells become hardened and incrusted, the fluids cease to flow in a healthy manner, and the organism perishes. It wears out, and runs-down like an old clock.

So far as the theory of vegetable life and growth is concerned, it would seem that a tree ought to live for an indefinite period. The parts of a tree which carry on the processes of life and growth, are the extremities of the stem and branches, including the buds; the extremities of the roots and rootlets, and the newest strata of wood and bark. These are renewed every year. Not so in an animal; the functions of existence are carried on for a whole life-time in one set of organs, and when these wear out the animal dies. But as the life processes in a plant are carried on through

organs never more than one year old, it would seem to follow that this order of things might be continued indefinitely.—There is no necessary reason, no cause inherent in the tree itself, why it should die.

Furthermore; a tree, as viewed by the vegetable physiologist, is not an individual, but a community, an aggregation of individuals. The only real individual in the case, is the first cell of which the plant was originally composed. Every bud since formed, and indeed every leaf may be considered an individual, since it has in itself all the elements of an independant plant, and may be made to produce one. And so, even though the inner parts of a tree become inactive and practically dead, the outer do not. Individuals may perish, but the community lives, and is renewed and augmented every year.

Trees have been happily compared * to the "branching and arborescent coral."—This structure is built up by the combined labors of a multitude of individuals,—"the successive labors of a great number of generations. The surface or the recent shoots alone are alive; all underneath consists of the dead remains of former generations.—It is the same with the vegetable, except that it makes a downward growth also, and by constant renewal of fresh tissues maintains the communication between the two growing extremities, the buds and the

* By Dr. Am. Gray, to whom we are much indebted in the preparation of this article.

rootlets." Now, as the coral structure lives and grows indefinitely, though the individuals composing it perish, so a tree, considered as a composite structure, may live on in the same way, without any assignable limit to its life. Every joint in its root, as well as every bud on its branches, might be taken off and set up for itself to form a separate and independent tree; but if all the children choose to remain on the homestead, need the family die out?

So much for theory; and there are some facts which go far to sustain it. But there is another side to this question. So far as theory goes, the human body is the same in its constitution now, as in antediluvian times, when men lived eight or nine centuries; but the stubborn fact is, that "the days of our years are three score and ten, and if by reason of strength, they be four score, yet is their strength, labor and sorrow, for it is soon cut off and we fly away." We occasionally see a man who inherits no perceptible disease from his parents, and who continues in good health to eighty and ninety, and even one hundred years. Up to this period, nature's laws work with a good degree of regularity. He eats, drinks, digests and sleeps about as well as ever; and no one can tell why he may not live for an indefinite period longer. Yet every body knows that this is an exception to the general rule, and that the general rule will soon assert its sway. The old gentleman takes a slight cold, or he stumbles and falls, or his digestion becomes impaired, or some other ailment sets in, and he suddenly dies. Nature could hold out no longer. Theoretically, he should have lived on for many years, but another law prevailed, (call that law what you may) and he died. So in the vegetable kingdom; by theory, a tree has no assignable limit of life, but practically, it has. Cases of extreme longevity sometimes occur, but they are rare exceptions, and even these trees finally perish. The biography of many an old tree is like this: the tree grows to its allotted height, then

expands laterally, both in its branches and girth. After a period, it begins to die at the centre. The rotten portion within increases faster than the new wood is formed without. The tree, though now old and hollow, still looks healthy. (It represents the vigorous old gentleman of eighty years). At length the strong winds sway it about, and racking it violently, and a fissure is made somewhere in trunk or branch, into which air and rain soon penetrate. By and by the decay of the centre crops through the bark near the ground—(The old man takes a cold). The leaves expand bravely every spring, but the rot in the trunk annually increases; limbs decay and are blown off, one after another, until at length the rot extends all along the trunk, and before many years a gale prostrates the old tree upon the ground, a total ruin. (The aged man dies a hundred and ten years old). Now, theoretically, that tree ought to have lived, but another law supervened, and the tree succumbed.

In considering facts like these, the thoughtful man will be impelled to say, surely something evil has happened to the earth since its creation. The natural world seems to sympathise with its chief inhabitant and lord, bearing part of the woes which has fallen upon him.

"O earth! dost thou, too, sorrow for the past,
Like man, thy offspring? * * * * * Dost thou weep
* * * * * For that fair age of which the poets tell,
Ere yet the winds grew keen with frosts, or fire
Fell with the rains, or spouted from the hills,
To blast thy greenness?"

But perhaps we have dwelt too long upon the theoretical aspects of our subject. One way to ascertain the age of trees, is by measurement of their girth at a fixed point from the ground. This does not give a perfectly reliable result, because some species grow more rapidly than others, and among the same species, difference of soil and exposure produces a difference in vigor of growth; yet it helps to an approximation.

The "Washington Elm," at Cambridge, is supposed to be upwards of 140 years old, because it is known that the celebrated Whitefield preached under its shade in the year 1744. The Aspinwall Elm, at Brookline, is known from historical data, to be about 200 years old. The great Elm on Boston Common, is believed to be of about the same age. Now, of these trees, the first measures 14 feet in girth, at four feet from the ground; the second measures 17 feet, at five feet from the ground; and the third, sixteen and a-half at the same height. With such data, one can go about the country, (as the "Autocrat of the Breakfast Table" has done,) and with tape-line in hand, determine the age of trees, with considerable accuracy.

Another method is by counting the annual concentric layers of a tree. (Of course, the palms and their allies are excepted here). But this cannot well be done without first cutting down the tree; and even then, the centre of many old trees is found rotten or hollow, so that a little *guessing* has to be resorted to. When the tree is sound, and the rings can be accurately deciphered, this mode is quite reliable. The old age of trees is perhaps most commonly arrived at, wholly or in part, through historical evidence or tradition; but it is necessary to sift this evidence with great care.

Every reader of newspapers and books meets with occasional instances of remarkable longevity in trees. The following, therefore, may not be wholly new to the readers of the HORTICULTURIST: An Oak, lately cut down in Poland, was found to have 700 distinct rings, and the hollow centre of the tree was estimated to represent 200 years more.

A Sycamore Maple, now standing near the village of Trona, among the Alps, is believed to be 550 years old. It is known that the famous "Grey League" was ratified beneath its spreading branches, in March, 1424. It must have been a century old then. There is a remarkable Linden in

Neustadt, Wurtemberg, which was so noted in the 13th century, as to be called "The Great Linden." An old poem, dated 1408, mentions that "before the gate of the city of Neustadt, rises a Linden, whose branches are sustained by 67 columns." These columns were pillars of stone, set up to support the immense branches, one of which extended horizontally more than one hundred feet! Its age is computed at about 820 years.

The celebrated "Tortworth Chestnut," is probably the oldest and largest tree in England. In the reign of Stephen, which began 1135, it was remarkable for its size. It is now 55 feet in girth, at five feet from the ground, and is doubtless 1000 years old. One of the oldest oaks in England, is the "Parliament Oak," in Clifstone Park, so called from a Parliament held under it by Edward the 1st, in 1290. Who has not heard of the immense oak near Cozes, in France, 90 feet in circumference at the ground, out of whose hollow centre, a room 10 feet in diameter and 9 feet high has been cut out? It is put down at 1500 years from the acorn. The Olive tree attains a great age. One, lately cut down in the suburbs of Nice, in Italy, showed nearly a 1000 years. Of the four now standing on the Mount of Olives, tradition may not greatly exaggerate in making them 1500 years old. The Yew is the longest lived tree of Northern Europe. Several specimens at Fountains Abbey, in Yorkshire, England, are believed to be 1215 years old. The famous "Darley Yew," in Derbyshire, has reached 1350 years. The famous "Big Trees" of California, (*Sequoia gigantea*) are among the most remarkable curiosities in the vegetable world. The evidence is reliable, that some of them are 90 feet in circumference, and 450 feet from the roots to the extremities of the branches! We wonder not at the enthusiasm with which the late Dr. Lindley, on first hearing of this discovery, exclaimed, "What a tree is this! Of what portentous aspect, and almost fabulous antiquity! They say that

the specimen felled at the junction of the Stanislaus and San Antonia, was above 3000 years old; that is to say, it must have been a little plant when Samson was slaying the Philistines, or Paris running away with

Helen, or Aeneas running away with good pater Anchises upon his filial shoulders."

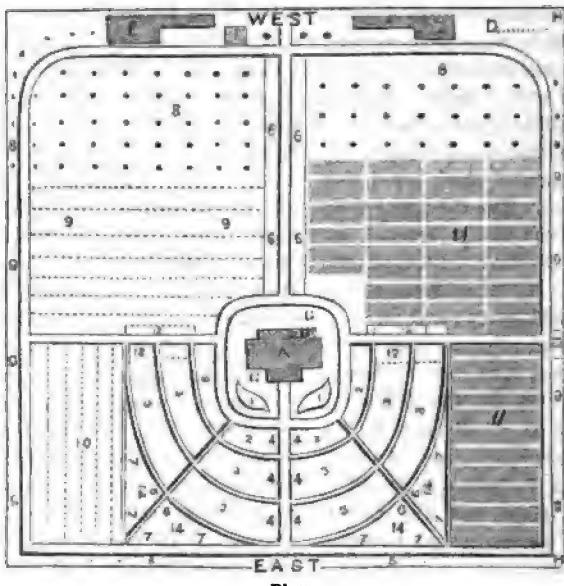
But there is no end to facts and statements like these, and here our record may as well be closed.

PLAN FOR LAYING-OUT A SQUARE ACRE LOT.

DEAR FRIEND AQELLUS:

Yours of last month is received. You want me to answer as soon as possible, and to send you a plan for laying-out the acre you have just bought. One acre! That's more than I have. We have books now, entitled, "Ten Acres Enough," "Our Farm of Four Acres," "Our Farm of Two Acres." I hope we'll soon have one, "One Acre Enough."

Well, I have tried my best; but I don't know whether it is according to your taste. "*De gustibus non est disputandum,*" or, as some would say, to have a rhyme, "*disputandibus.*" But I hope your taste will not very much differ from mine. We are both lovers of a promenade. You must have as many walks as possible; it is necessary for your health. I have arranged the walks so as to satisfy the eye, the nose and the pal-



Plan.

ate. When I shall come and visit your new home with our mutual friend Agricola, we may, when walking, not only have a full view of your floral beauties, and inhale their sweet fragrance, but may also very conveniently pick your berries.

I don't write anything about the house (A), as you don't want my advice about that. But, friend, don't forget the porches (B); at least, you should have one.— Around the house you should put gravel and sand (G); nothing is healthier for

your boys and girls to play on. The stable, (C) with shed, you will put in the rear on the north side, and the poultry house (E) on the other. A shed should be annexed to it for the chickens on wet days. Next to that a house for pigeons (F). The place I have assigned for the poultry house, you will find out to be a good one in after

years; your chickens, running at large under your plum trees, will save you many a plum from the curculio. North of the stable will be a good place for wood (D).

The symmetry of the plan will, I think, have your full approbation. I need only add now

THE EXPLANATION.

- | | |
|-------------------------------------|---------------------------------|
| A—House. | 4—Climbing plants. |
| B—Porch. | 5—Shade trees. |
| C—Stable and shed. | 6—Ornamental shrubs, roses, &c. |
| D—Place for wood. | 7—Evergreens. |
| E—Poultry-house. | 8—Fruit trees, dwarf. |
| F—Pigeon-house. | 9—Small fruits, currants, &c. |
| G—Gravel-sand. | 10—Strawberries. |
| H—Board fence. | 11—Vegetables. |
| 1—Bed of Verbenas. | 12—Grape vines. |
| 2—Bedding plants, tender roses, &c. | 13—Hot-bed. |
| 3—Bulbs, annuals, perennials, &c. | 14—Grass. |

I remain, yours truly,

Rut, Nov. 13, 1865.

AQELLULUS.

GARDENS AND PARKS OF GERMANY.**EDITORS OF THE HORTICULTURIST:—**

I send you herewith a copy of an essay, read before the members of the Rural Art Association, of this place, which I hope may prove as acceptable to your readers as it was to us who had the pleasure of listening to its reading. It was prepared by Mr. Edward W. Root, who has spent the past two years at Berlin and Heidelberg, Germany, and who has recently been appointed an assistant professor of Chemistry, in the school of Mines, connected with Columbia College of your city.

J. C. H., Sec.

Clinton, Oneida Co., Nov. 29th, 1865.

"I have been very kindly invited by the Rural Art Association, to occupy a portion of this meeting with a rambling description of any thing of interest which might have attracted my attention during my residence abroad. But, in order to avoid an utter confusion of heterogeneous topics and scenes,

JANUARY, 1866.

it will, I think, be best to confine myself within some limits.

As the object of this Association is the promotion of Horticulture and Floriculture, of rural embellishment and rural comfort; as its object is to aid nature in beautifying our homes and cultivating our sense of the beautiful, I think it will be most fitting for me to ask your attention to some simple remarks on the gardens and parks, on the rural scenes and love of Nature in Germany.

One of the first things which attract the attention of a stranger upon entering Germany, is the universal love of flowers. Everywhere you see them, and often in the greatest profusion. In all the large towns, the flower dealers and flower-girls are established and well patronized persons.—Wherever you go you are sure to meet them; at the cars, on the steamboat, at the table d'hôte, the concert and the ball, in the streets and in the reading-rooms.

In large cities, if there be a bit of vacant ground attached to a dwelling, it is converted into a flower-bed; but as people seldom live in a house by themselves, but several families upon the various floors of the same building, all cannot enjoy even a miniature garden, and to make up for this, you find the windows filled with beautiful flowers. I have seen large buildings in which every window had its floral screen. And way up in the attic windows, which look like loop holes in the steep roof, you see carefully cherished plants, and gracefully trained vines, their lively refreshing green contrasting very complimentary with the red, dusty tiles around them. And who knows what a blessing these flowers may be to some lone, wearied seamstress, who year after year sits at her lonely window, with naught for a prospect save the glaring sea of roofs around her, or to some poor invalid, who, month after month longs in vain for the pure air and green fields of a childhood's happy home. I remember one poor woman in Munich, whose rooms were so small that there was scarce space enough to turn round in them, who showed me with a just pride, a collection of plants which would have graced any conservatory. The German gentlemen delight to wear flowers in their button-holes. And I used to meet, day after day, certain gentlemen, who never failed to have some beautiful fresh flowers in their coats. Some seemed to show a preference for some particular flower, for you always saw this one with a rose, that one with a geranium, while others would wear little clusters of violets or lilies of the valley.

The ladies delight to adorn their hair with beautiful flowers, preferring often some single fair flower to a profusion of glass beads, or steel nonsense; and I have seen fairy-like exotic blossoms, strangely beautiful, deliciously fragrant, which formed more fitting ornaments for a brow of beauty than the rarest gems.

No present is more acceptable than a

beautiful bouquet, and upon one's birthday it is a customary one. But the flowers are not always from the green-house or the garden. They are fond of wild flowers, and no German family ever returns from a rural ramble without an armful of them. They delight to gather beautiful grasses and ferns, and interspersing them tastefully with flowers to form immense bouquets. I had one presented to me upon my birthday, which was at least five feet in diameter and proportionally high. In summer, the Germans love to live as much as possible out of doors, to take their meals and spend their evenings in the pure air and along with nature. In cities, where possible, they have gardens and arbors, where they love to linger, to read, and to sing, or perhaps a spacious balcony, covered with trailing vines, will be the scene of their tea-parties; but if these be wanting, the whole family will visit some large public concert or tea garden, and securing a table under some spacious tree, will gather around it, and looking up at the over-spreading branches above them, will forget the brick walls and paved thoroughfares which every where encircles them, while the tuneful orchestra, which ever and anon sends forth its clear strains of sweetest music, makes them forget for the while, the petty cares and sorrows which pamper their existence. And so in every German city you will find a multitude of these pleasant gardens, and every fine day you will find them filled with families. The mothers, the sisters, and the whole young portion of the family—for the whole family goes—will go in the afternoon, taking their work with them, while later in the evening, after the day's business is ended, the father and elder brother drops in and accompanies them home. In the smaller towns, you find almost universally a garden connected with every house, and in this garden a never-failing arbor where the family can take their meals. In a drive upon a pleasant afternoon in the environs of a large city, I have seen scores of families sitting out of

doors drinking their afternoon coffee; some in gardens, some on lawns, and some on little plots of grass in front of their houses, just large enough to place their chairs and tables. The Germans are very fond of little family excursions into the country, both for their own pleasure and that of their children. If some pleasant spot is to be found within no very great distance, perhaps they will walk, taking with them a bounteous luncheon, and sitting around upon the green grass, under noble trees, they listen to the cheery warble of the birds, and drink in the pure air and sunshine, while the children romp and play, chasing butterflies and gathering flowers. And thus they pass a pleasant afternoon, until the evening shadows begin to gather round them, when they turn their steps homeward, all the better and happier for their communion with nature. Sunday being the day when almost every one is at leisure, you will see car loads of people dressed in their best, starting out in the morning for some favorite rural resort, and the highway thither will be lined with carriages and pedestrians. And often in some of these resorts, you will see the rich and the poor all mingled together,—the laborer who has ridden out with his children upon a hard uncushioned third-class seat, and the rich man who has come with his coach and liveried footman.

I recollect one beautiful Sunday afternoon in Munich, seeing a strange but interesting sight. It was in a beautiful park, called the English Garden. I had been strolling along the broad walks, passing groups of elegantly attired ladies and gentlemen, and fine equipages with well groomed horses and liveried coachmen, whose occupants represented the wealth and aristocracy of the capital of Bavaria, when sounds of music met my ear. Directing my course towards the sound of the music, I soon reached a large open lawn, with an undulating surface, and diversified here and there by clumps of trees. About

in the centre stood a tall open tower, and here were seated a band of musicians.—Right around the tower were numerous benches, all occupied, while in all directions, upon every side, laying and sitting on the green sward, were hundreds of men, women and children, some in groups, some apart eating their frugal lunch, drinking beer, and listening to the music. I judged that there were several thousand there assembled, and all from the lower classes,—day laborers and private soldiers with their families. There was not an unhappy face among them, and they seemed as contented as the occupants of the splendid carriages, which every now and then went rolling by them. If you wish to see the population of a German city, and every grade of it, you have only to visit such a park on Sunday. Here you will see the prince and the peasant, the general and the private, the peer and the artisan, all together, all pursuing the same object, but still as separated as by walls of iron. Kings and princes, knowing that their subjects are more contented when allowed such pleasure, have fitted up magnificent royal parks and gardens, and thrown them open to the public. And thus you find all throughout Germany, wherever you go, extensive public grounds. In our own country, such efforts must either be the result of corporations, or of individual enterprise. In Europe, they belong to and are cared for by royalty. In the kingdom of Prussia alone, I believe there are over forty royal castles, and each of these has its gardens and parks, its conservatories and hot-houses.

In this way the-poor and middle class in Germany, although unable to do anything in this way themselves, become familiar with, and grow into love of horticulture. The German princes pay a great deal of attention to their parks and conservatories. Their dwellings are often tasteless and unpretending, but they are made beautiful by their surroundings.

(To be continued.)

A TRIP TO VINELAND, NEW JERSEY.

BY P. T. QUINN.

HAVE you been to Vineland? Do you intend going? Have you talked with persons who have been there? What have they said about it? Is it not an enormous swindle on the public, with a smart engineer who makes free use of printer's ink, and keeps the machinery oiled, and whose sole object is to make money? Those and numerous other queries, are constantly asked by persons who are searching for cheap homes in the country.

Having heard so many conflicting stories about this new settlement, I determined to go there and make a personal examination, to satisfy my own curiosity, and if as I was led to believe, it was a monstrous humbug, I would do all I could to place the matter before the public in its true light, and my object now is to state briefly what I have seen there on a recent visit.

I started from New York with a party of six gentlemen, and we reached Vineland late on the evening of October 27th. We drove from Hammonton in wagons a distance of 20 miles, which gave us a good chance of observing the character of the adjoining country, before the axe, grub hoe, and stump puller, were made use of. I flattered myself during this drive, that my convictions about Vineland would be fully confirmed, and that Mr. Solon Robinson had been hood-winked by the proprietor of the Vineland tract. Some time after our party reached the hotel, I accidentally met a friend whom I had lost sight of for the last three years, and who now is connected with Mr. Landis. I told him at once my impressions about Vineland, and said I understood every other man wanted to sell and get away from the place. He asked me on what terms a person would sell, who was "sick" of his bargain. I said if very much so, at half cost, and if only moderately tired, at actual cost; that is, the price paid for the land, clearing, cost of building, trees,

fences, &c., &c. He said if you find a man on this tract that will sell on those terms, I will pay you double the amount. I said it was a bargain, and early next morning two others started with me in search of persons who had been "taken in," but to our surprise we could find no such individual, although we walked more than eight miles. I had no difficulty in finding men who would sell, they invariably asked twice and three times the original cost; that is, if the entire outlay on a place was \$1,500, their selling price would be \$3,000 to \$3,800. I then made up my mind "sickness" did not prevail to any great extent on the settlement of Vineland. At first I thought Mr. Landis bought up all the "contents," but on close inquiry and conversation with actual settlers, hailing from all parts of the country, I learned that the location, soil, and climate gave satisfaction.

After breakfast our party started in company with Mr. Landis and a number of citizens, to drive through a portion of this extensive tract, to witness what has been growing on the past two seasons preparations, for the coming and other novel features exclusively belonging to Vineland. To a stranger the place gives an impression of newness, which is in fact, true, but at once you wonder how so much could have been done in the short space of three years. Then a wilderness of pine and scrub oak, now a busy, bustling, thriving town, surrounded by a fine agricultural country. How to fully describe all I saw would be a difficult task in one short article, but I saw sufficient to satisfy me and each member of our party, that Vineland is not a humbug. And an industrious man, with moderate means, can do better in Vineland than to go to the far West in search of cheap and fertile lands for the following reasons: 1st.—He has the advantage of good society.

2nd.—He is close to a place of worship. 3d.—His children can be educated at a very small expense, and 4th.—He is within 3G miles of a good market for all his produce, with the prospect of having direct communication with New York at an early date.

This land appears to be especially adapted to the growth of small fruits, and just so soon as direct communication is opened with New York, this section of the country is destined to become the fruit garden of the Metropolis.

The strawberry is being extensively planted, and for the present the growers look to Philadelphia for their market. The same luxuriant growth of vine can be seen here as in Hammonton, and the settlers are beginning to learn that one acre of strawberries well taken care of, will pay more profit than three acres of potatoes, or five acres of common corn.

The soil is well adapted to the grape. We examined various lots on different parts of the tract, and in all cases were satisfied from what we saw, that the vine will be made a leading feature in this section, and the day is not far distant when Vineland will be as noted for extensive vineyards as Cincinnati, or other grape growing districts. This locality will have many advantages over other places in being so near New York, the best fruit market in the world.

The young orchards of pears, apples, and peaches that our attention was called to, give promise that the soil is equally adapted to large as well as small fruits. These trees, many of them planted last spring, have made a good growth, and would reflect credit on any soil or location. I was assured by many of the owners, that the trees received very little manure, in some cases none, and no extra care.

Cucumbers, melons, and sweet potatoes flourish in this soil, and as the season is two weeks earlier than the vicinity of New York, growing early vegetables for that market will become a profitable business.

On the south-east part of the tract, we were shown a field of common field corn, and after a careful examination it was argued that the yield would be 40 to 50 bushels shelled corn to the acre. Along side of this lot was a field containing 17,000 cabbages, looking very well, the heads firm and solid. The owner, whose name I have forgotten, settled three or four years ago, with only sufficient means to make the first payment on four acres, and build a cheap house to live in, but he persevered, and each year bought and cleared a little more land, until now he has 60 acres, tillable and entirely free from debt. He has devoted a certain portion of his farm to vegetables, for which he has a good market a few miles distant.

The rapidity with which Vineland has grown is quite surprising; it reminds a person of fairy tales. Three years ago a wilderness, and according to the census taken in July last, there was then 5,200 inhabitants, and if immigration continues for the next five as it has for the past year, there will be a population of 25,000 people. To give an idea how the place is being settled, I was assured on good authority, that from Jan. 1st, 1865, to January 1st, 1866, 1,000 new houses will be built on the Vineland tract.

Mr. Landis has already opened 160 miles of road at his own expense. This of course is a great advantage to settlers, as their time may be employed in improving their respective places instead of making new roads.

There are five public schools in successful operation, so that every resident can have his children educated at a very small expense.

In conclusion, I would advise persons in search of cheap lands to visit this section of country, and remain long enough to examine for themselves and witness what this sandy soil will produce even under very indifferent treatment.

NEW HYBRID PINK, "SARAH HOWARD."

BY PETER HENDERSON.

THIS valuable addition to our new plants was originated by A. G. Howard, Florist, of Utica, New York, who is well known as an accurate and close observer in all matters pertaining to Floriculture. It is something of a nondescript, evidently a hybrid between some white China pink and Carnation. From seed sown last March, 95 per cent. came double; they began to flower in August, and continued in wonderful profusion until October, when they were carefully listed and potted, and are now literally covered with buds and flowers. The color is of the purest white, most asymmetrical in form, fringed, and in the different varieties, (for there are many varieties), varying from 2 to 3 inches in diameter; as a white pink for winter blooming, in beauty of form and profusion of bloom, it will fill up a blank that has been long wanting. On some of the varieties as many as 200 buds and flowers have been counted on one plant.

Mr. Howard informs me that it is quite hardy even in Utica, where the thermometer occasionally runs down to 20 below zero, and that when struck from cuttings, or sown early, say in January, it will bloom continually from July throughout the season. There is little doubt but that it can be hybridized by colored varieties of the Monthly Carnation, when we may expect a rich treat from the opening up of a new class in this most beautiful tribe.



EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. WOODWARD, 37 Park Row, New York.

THE NURSERY TRADE.—The results of the past year have developed some very curious examples of timidity in this line of business—a business that now stands on a broad and permanent foundation, and is as legitimate in its pursuits and results as any other business that can be named, and yet, by a very large number, evidently carried on with the momentary expectation that all demand will suddenly cease. The question was asked, upwards of twenty years ago, of a nursery-man who stocked an acre near Hartford, Conn., "Where will you find a market for all your trees?" and since then nurseries have gone on increasing in numbers and extent, year after year, and now the public are clamorous to know where they can find peach trees, plum trees, crab apples, quinces, evergreen seeds, Concord grape vines, and grape vines of all kinds. This kind of questioning is getting to be quite an important part of our correspondence, and we must decline answering it in any other manner except through our advertising columns. But the men who trembled the most were those who propagated grape vines the most extensively. They evidently thought that a small matter of two or three hundred thousand vines would glut the market; and the cut-throat game of seven or eight cents a piece for Concord vines was an evidence of fear by which the buyer profited largely.—Now, in the month of December, when prudent buyers are looking out for next spring, Concord vines are scarce at four times the price. We hear a great deal of talk about grape fever, but what does the whole of it amount to? About one of the most imperceptible things in existence.—How many farmers in all this broad land

have a single grape vine? Take all the acres of vineyard from the Atlantic to the Pacific coast, put them together, and how many townships in this State would they cover? Grow all the fruit, and make all the wine possible, and this city would call for more. This grape business is only in its infancy, and its progress will not end with this generation. How many farmers take an agricultural paper? Not one in ten. The balance know nothing—they don't want to know anything—and it will take years to educate such men to know the difference between good grapes and poor ones; but it can be done. It requires persistent application. There is steady progress; we have full faith in it. The time will come when every one will not be satisfied with a single vine; they will require dozens and hundreds. What our grape vine propagators ought to do is to raise first-rate vines, then let the public know they have them for sale. Advertise boldly, liberally, persistently; keep at it week after week, month after month; spend your profits in printer's ink; it will all come back in time, and a goodly fortune besides.

APPRECIATION OF HOME PRODUCTIONS.—
100 Dollars for six Verbenas.—Dexter Snow, of Chicopee, Mass., sold last September, the stock, consisting of six single plants of seedling Verbenas, to Peter Henderson, of Jersey City. The varieties are of the Italian strain; striped, spotted and mottled, and have been brought to their high state of perfection, by the hybridizing of Mr. Snow, who has devoted many years to the cultivation of the Verbena, and to whom we are already indebted for many of our leading varieties.

LYCHNI'S SENNO.—One of the novelties that will be issued in the Spring of 1866. It has been grown in England for the past three years, and figured in most of the illustrated magazines. In our brighter sunshine it will, no doubt, become more decided in its markings than in England. In specimens of it that we saw last summer in the grounds of Peter Henderson, the colors were clearly defined, scarlet and white striped, presenting a most novel and beautiful feature in this class of plants.

The plant is continuous blooming, and like others of the genus, will, no doubt, prove entirely hardy.

RECLAIMING DROWNED LANDS has become a branch of knowledge where the application of skill and industry is as sure of the promised result as in any of the demonstrable sciences. It has been a subject of interest in the early ages of the world, and experiments in this direction have been almost uniformly crowned with success. The histories of Rome, Holland, Russia, England, and indeed, of almost every country, supply innumerable examples of lands rescued from the dominion of the ocean; and the success of human skill in redeeming them is commensurate only with the patience and perseverance with which they have been applied. It is stated that the Bedford Level in England, once a waste, contains 300,000 acres of unreclaimed soil; the Romney Marsh, 40,000; in the counties of York, Lincoln and Cambridge, hundreds of thousands. In the county of Norfolk more than 30,000 acres, composed like the Bergen meadows, of muddy depositions left by the tides and floods, have been reclaimed; and from scenes of utter desolation display rich fields and gardens, yielding, in the fruits of the earth simply, from ten to fifteen per cent, on the capital invested. Holland is an instance on a grand scale. But it is useless to enumerate the enterprises in foreign countries which have been

successful. Many such have been made in our own land with a similar result. As, for instance, those marshes which formerly surrounded the "Old Milldam" in Boston, now reclaimed and occupied by solid, substantial, and in some cases positively massive edifices of brown stone. — *Journal of Commerce.*

THOSE of our subscribers who have the volume for 1863, by mailing it post paid to this office, can renew their subscription for 1866 with it.

AGRICULTURAL, HORTICULTURAL, ARCHITECTURAL, and other books can be had at this office, or will be mailed to any part of the country post paid, on receipt of price. Any book, paper, or periodical, on any subject, can be ordered through us. See our book lists; select all the papers, magazines, and books you wish, no matter in what section of the country published; send us a postal order or draft on New York for the amount, and the business will be promptly attended to.

We send this number to all of our subscribers, with the invitation to those who have not yet renewed their subscription for 1866 to do so without delay. This volume will be fully illustrated, and we are constantly perfecting our arrangements, to give the best reading matter and instruction that the country will afford. In all matters of horticulture and rural art, we mean to make the *Horticulturist* the best authority that can be consulted.

VOLUNTARY CONTRIBUTORS can aid us very much by choosing thoroughly practical subjects. We shall have to omit hereafter all articles that do not convey instruction of some kind. Essays, speculations, theories, &c., we consider of little or no value. The best and most valuable writers for the Press, those who command the highest price and the most readers, by nature or culture possess the faculty of expressing themselves in the least possible number of words.

PARTIES who have ordered Volume IV of "Rural Affairs," and "Cochrane's Farm Bookkeeping," cannot be supplied until some time during the month of January. The difficulty of getting paper is the cause of delay. We find it impossible to get our volumes for 1864 and 1865 bound as fast as called for, and the delay of a few days is from this cause.—After this week, we shall be fully prepared to meet the demand, though from present indications the volume for 1864 will soon be exhausted. Our number for November, 1865, was printed on foreign paper made in Bremen. Our regular supply of paper was delayed by the accident to the St. John, Bremen paper and only just enough for our edition was all that could be found in this market. With our best endeavors, we were fully ten days behind time. Publishers must look well into the future now if they need supplies of any class.

THE "GREENLY PRIZE" Committee have given the premium to the Baldwin apple and Bartlett pear, as best adapted for general cultivation. The Committee were not unanimous.—The vote was four for Baldwin, and three for R. I. Greening. The Hubbardston Nonsuch was ruled out, as it was said the fruit would not keep in good condition until the first of February. The vote on pears was four for Bartlett, and three for Sheldon. The Committee then recommended six varieties of apples and six of pear for general cultivation, to consist of two Summer, two Fall, and two Winter varieties. Summer Apples—Primate, Red Astrican. Fall—Porter, Gravenstein.—Winter—Hubbardston Nonsuch, Northern Spy. Summer Pears—Manning's Elizabeth, Rostiezer. Fall—Sheldon, Seckle. Winter—Lawrence, Dana's Hovey.

DEAD and gone! dead and gone! never more cans't thou come back to us, poor Old Year! What brave promises were thine? What weak fulfillments? There were violets that the night frosts withered; there were orchard blooms where never came fruit; there were rosy morning clouds that grew into tempests, and dews that congealed into hoar-frosts; there were

fancies that faded into nothingness before cold realities; there were hopes, and plans, and endeavors without fruition; there were loves that decayed into forgetfulness, or that ended in hatred, and good intentions that froze into hardness of heart.

Shall we lament thee, then, dead deceiver, hollow professor? Let us rejoice that thou art gone. But were there no good movings in thy heart towards us? Didn't thou really bring us no positive blessings? Sunshine made every day a glory; winds swept away the deforming tempests from the sky; some good desires were prospered, and worked themselves out into good deeds; some good will was transformed into action. The dark cloud of war has disappeared and peace smiles again upon our dear land; and if we remember, that during the whole time thou wert with us, Old Year, Gon did not once forget us; we have much to be grateful for. Let us, then, stand on thy grave with holy thoughts, and forgiving all thy short-comings, like a true friend, and weeping over our own, like a true christian, bury in oblivion that thou had'st not, and cherish in grateful memory that thou had'st.

The year has almost fled;
Let's utter a prayer for the well-nigh dead;
Oh, eve and dawn!
Oh, night and morn!
Three hundred times ye have come and gone,
While round the fiery-featured sun,
One course our ancient earth has run.
For each bright day
Now swept away,
Wherein we wrought not,
Thought not,
Prayed not,

For the greater glory of Thee, our God;
Oh, let its record swift be trod
Beneath Thy foot, while we knew
Begin our lives with purpose true!
We come to bury the old and worn;
His brow is furrowed, his garments torn.
We write on his headstone—paus and res,
Where thou a twelve-month hence may be!
Toll for the dead,—toll for the dead;
The frozen earth is over his head.
Heaven pardon his sins, he meant so well;
Toll, tell the bell!

"I NEVER had any other desire so strong and so like to covetousness, as that one which I have had always,—that I might be master, at least of a small house and large garden, with very moderate conveniences joined to them, and there dedicate the remainder of my life only to the culture of them and the study of nature.

And there, with no design beyond my wall
Whole and entire to lie,
In no inactive ease and no unglorious poverty."

Cowley's wish is, like Pope's Universal Prayer, adapted to all sorts and conditions of men. How many thousand times, in each of the two hundred years since the *epistle to John Evelyn, Esq.* was written, has the same ardent longing been breathed by lips that pant to inhale the fresh breezes of the country, instead of the impure air of the town! Give me but a garden! is the aspiration sighed forth, with more or less of hope, in cities and in solitudes, by children and by their grandsires. From Punch's indication of the season, when to rake mignonette with a silver fork, pass to a sketch like this of an Australian explorer:

"Mr. Phillips is rather singular in his habits; he erects his tent generally at a distance from the rest, under a shady tree, or in a green bower of shrubs, where he makes himself as comfortable as the place will allow, by spreading branches and grass under his couch, and covering his tent with them, to keep it shady and cool, and even planting lilies in blossom before his tent, to enjoy their sight during the short time of our stay."

All this industry repeated night after night, by a weary foot-sore man, merely in the hope to have something like the shred of a garden to look at on waking in the morning. Could there be a more touching expression of the "hortulan" passion which, whether latent, or in full action, remains, like hope, ineradicable from the human breast? It is a natural consequence, too, that those who cannot taste the actual fruition of a garden, should take the greater

delight in reading about one. But the enjoyment next below actual possession seems to be derived from writing on the topic.

"Had I not observed," says Sir Thomas Browne, in his *Garden of Cyrus*, "that purblind men have discoursed well of sight, and some, without issue, excellently of generation, I, that never was master of any considerable garden, had not attempted this subject. But the earth is the garden of nature, and each fruitful country a Paradise."

The love of flowers is a universal passion. As John Ray expresses it, "All the world are *philobotani*."

The most highly esteemed favor which the early missionaries at Tahiti could confer on the king and queen, was to furnish them each, on State occasions, with a specimen of that splendid novelty, the sunflower, to be worn in their dusky bosoms. The men of St. Kilda, who went to pay their duty to their lord, in the far southern island of Skye, could hardly proceed on their journey when approaching Dunvegan Castle, because, they said, the trees,—such beautiful things had never been seen even in their dreams—the trees kept pulling them back. Be grateful, then, ye who live in the country, in a temperate clime, and endeavor to enjoy your Eden truly, by fencing off every unhallowed intrusion, and by the remembrance that for you and yours there grows in the midst a tree of evil, as well as a tree of good.

VERILY, now-a-days, "the poor we have with us always." When I open a volume of poems, I prefer to find a digression from the ordinary talk of this weary working world; from rhythmical sermons and Dorcas Society addresses in verse. Do good with all your might, fervently, effectually, thoroughly, but do not talk about it all the time; at least, do not make poetry the vehicle in which you go about to trumpet your deeds. Alas! the old triumphal chariot, with its laurels, its milk-white steeds, and the clarion blast that heralded

it, is turned into a Connecticut pedler's wagon, with iron candlesticks, brooms and patent medicines inside, while a big tin dinner-horn announces its approach. The Muses have become Sisters of Charity, and tramp about with great baskets of clothes and phials. Mars is in prison for fighting a duel, and Bacchus, having suffered repeated attacks of delirium tremens, has joined the Temperance Society. Nimble-footed Mercury goes round with subscription papers; Venus has been sent to the House of Correction. The Graces have put on high-necked dresses, and write for the magazines; Juno has taken the management of an Orphan Asylum, and Jupiter has been elected to Congress to legislate for the Freedmen, Reconstruction, general reform, and woman's rights. Alas! for the good old times, and the romance of the old Mythology.

A YEAR is not only an astronomical, but a natural division of time. The first imperfect year of ancient times, must, no doubt, have originated from observing the regular vicissitudes of heat and cold, of the leafing, flowering and fruiting of the various tribes of plants; and the coincidence of these appearances with the laying and hatching of birds, and the production of the young of quadrupeds. This way of reckoning, however, was subject to so many variations, that it was necessary to make choice of some more constant periodical occurrence by which to mark the annual revolution.

The ancient year began in the month of March, and it may seem singular that modern civilized nations should choose to commence their year at a period when nature lies almost dormant, in preference to that season when the race of vegetables and animals is actually renewed. In defence of the present custom, it may, however, be said that the time of the renovation of nature varies in different countries, and is affected so much by accidental circumstances, as to preclude the possibility of an

exact calculation; that now the year does not commence till ten days after the winter solstice, and that the lengthening of the day, as it is the chief cause, so in fact, it is the commencement of the spring.

So little influence, however, has this change at first, that the month of January is usually found to be that in which the cold is most intense.

It used formally to be a subject of much dispute among natural philosophers, whether frost was a particular substance, or merely the absence of a certain degree of heat. The latter opinion is now most generally entertained. The little hooked salts, or spiculae, which in frosty mornings are found floating in the atmosphere, or adhering to the surfaces of bodies, being found by experiment to be nothing more than small crystals of ice, capable of being resolved by heat into pure water.

The process of congelation is curious and interesting, and it may be that the laws which govern it are too familiar to need repetition. It is well known that water, when frozen, is expanded, and occupies more space than it did before, and hence, that ice is lighter than water, and swims upon it. If a bottle full of water, tightly corked, be left to freeze, the bottle will be broken for want of room for the expansion of the water while assuming the solid form. Water-pipes often burst from the same cause, and hoops fly off from barrels; and in the intense frosts of the northern regions, cannons and bomb-shells filled with water, and the apertures strongly plugged up have, in the course of a few hours, been burst.

The explanation of this is, that in the process of the congelation of water, needle-like crystals are formed, which unite to each other at angles of a certain size; hence the space between these crystals is much more considerable than between the particles of water; and on this account, water, when frozen, occupies more space than before, but with no increase of weight.

This same property of water, when frozen, tends every year to diminish the height of the Alps and other lofty mountains. The fissures and crevices become filled with water during the summer, which is frozen in the winter, and by its irresistible expansive power, detaches huge masses of rock from the summits of the mountains, and rolls them down into the valleys below, to the terror of the inhabitants.

In its more moderate and minute effects, the operation of this general law is productive of a very beneficial consequence to the gardener or husbandman. For the hard clods of the ploughed lands are loosened and broken in pieces by the expansion of the water within them when frozen. The earth is crumbled and prepared for receiving the seed. Hence the reason and the utility of trenching our gardens in the autumn before the frosts set in.

THAT must be a cold and forlorn heart that does not love flowers. While reading, the other day, in one of our dailies, of the magnitude of the trade in cut flowers, in the city of New York, we were reminded of the following little poem, which was written several years since by one who dearly loved flowers, and knew them well, who has since passed from the enjoyments of the delightful associations of earth, to the higher and purer enjoyments of the "Courts above":

More flowers, more beauty in my path,
More light along my way;
A deeper hue the sunshine hath,
A richer glow the day;
And every breeze that sweepeth by,
Speaks with a gayer tone,
And breatheth with it perfumes rare,
Which these sweet flowers have strown.

Ay, bring them forth into the sun;
They were not born to be
Hidden away from mortal eyes,
What joy such flowers to see.
Bring crystal water-drops to fling,
Like pearls upon each leaf;
So let them rest in yonder vase,
A green and golden sheaf.

FATHER! who gavest these gems to shine,
These buds in blis to grow,
What must adorn Thy courts above,
If such are found below?
They say that there e'm rainbow hues
Are pale and dim to see;
Then what, O FATHER! dyes Thy flowers?
What must their radiance be?

THE glorious and genial autumn has passed, but the remembrance of its bright golden days comes back to us by the winter fire-side, like the memory of the sweet fragrance we inhaled in the leafy months which are gone. Of all the delicious states of feeling that ever cross our monotonous pathway,—said the gentle friend whom we have just copied—commend me to a woodland reverie in a sunny day of autumn. To sit on the warm green turf, just at the edge of a noble old wood, and feel the grateful glow of the unclouded sunshine, while the rustling of the leaves is in your ears; to watch the slow, rocking descent of one brown leaf after another, and listen to the quick droppings of the acorns, each with its own distinct little crashing; to hear the short, satisfied chirping of the numberless small birds that swarm on the bushes, each bush bearing a double burden of berries and of birds; to note the ceaseless labors of the wild bee and the ant, the busy crickets, the careful butterflies; yet neither to think, moralize, nor meditate upon either of these in particular, nor upon other things in general; but merely to exist, conscious that you are somehow remarkably well-off,—and not very certain how it came about. This is a true woodland reverie.

CONTRAST this *dolce far niente* condition of the writer with the positive, outspoken feeling of discomfort and dislike of the same, for the inhospitable winter, the glittering snows, and the glaring, treacherous ice of our northern climes.

But such weather as we have! Oh, that it was blotted out of the almanac! First snow, then hail, then rain, then "splash," keeping me in the house all the time. The

cold has, for the last three days, been terrible, and the suffering among the poor, great. How I dread the winter and the snow; I never loved it. It is so cold, so glittering, so shroud-like. I think of the earth as one great charnel-house, wherein decay jostles the dead with rudeness. I feel the slow procession of the hours, as separately they pass along in one vast funeral train. I fear the snow, for it turns to a blank all the beautiful book that the south wind and the west wind, and the warm rain opens for us to read. It frightens all my little lovers, the ground-sparrow and the tree-sparrow, and the katy-did, and the bee, and it hides all the summer-brooks so deftly that none can find them, save sweet spring, and she sleeps. Why should I love the snow? I am faint and shivering when it falls upon me, and I loathe the heavy garments I must don. When I fold away the pretty adornings that are fitted to the season of the morning-glory and the sweet-pea, when I consign to the dark wardrobe, the transparent scarf and the pearl-white dress, I wrap up in their foldings many a tear that will fall, despite my womanly courage. May it please God, I die not in the days of the hoar-frost and the black-frost, of sleet and white driving snow! I should leave the world gladly, forgetting to thank heaven for its beauty and exceeding loveliness. I should stretch out my hands towards the bannered golden city, builded of emerald, and amethyst, and sapphire, forgetting that even with such had my pathway here been paved. I should lie impatiently on my sick couch, "biding my time." I would listen for the melody of the rapt seraphs near the throne, not remembering that the Lord had prepared

richest music for my ear many thousand times, when I had not even prayed for it. I should say, "Thank God, I die!" rather than, "Bless God that I have lived."

(Incapacity,) like murder, "will out." Some say the defect is in my head.—I think it is in my heel, where there is such a shocking chilblain. I think Thetis must have plunged me in the Styx, as she did Achilles, all but my heel by which she held me, and that this spot is the only one vulnerable to Jack Frost.

I have had only one sleigh-ride this winter. Judge whether it was a joyful one when it led me to a hovel where an insufficiency of lights, fire, food and clothing made winter dreadful. You know I hate sleighing, and snow, and ice, and all other manifestations of cold weather. When I am queen, in my realm there shall be no winter, but one long, golden, glowing summer. There shall be a perpetual shower of rose leaves on *my* grass, and the poplar leaves shall be the only creatures to shiver all the year round. There shall be a violet-colored twilight to last all night, and sweet south winds in the morning. I am a summer child, and true to the season that gave me birth. How can you like snow? It is so unmeaning, dead, stifling. I would rather see the coarsest brown furrow in dear mother earth's wrinkled face, than all the brilliancy of frost, and ice, and snow in which poor shivering mortals rejoice.

The EDITOR'S TABLE closes this month with cordial salutations to the readers of the HORTICULTURIST; A MERRY CHRISTMAS and a HAPPY NEW YEAR. Till we meet again, *Salve et Valete.*

CORRESPONDENCE.

ITHACA, N.Y., December 6th, 1865.

Messrs. EDITORS—The great Agricultural College of the State of New York, with its magnificent endowment of half a million of dollars, distinguished by the name of its

founder, and known as the Cornell University, is fast developing into a reality. Architects and committees are now considering and preparing plans of the buildings which are to be erected, and the opening

spring of 1866 will witness the hum of the busy artisan and laborer laying the foundations. The present arrangements contemplate the erection of five principal college buildings in the foreground, upon an elevation of about 150 feet above the level of Cayuga Lake, commanding a fine view in a northerly direction for thirty miles over its surface, and of the village of Ithaca, "its lovely valleys, and its hills of green," in a south-easterly course. The situation selected is one of surpassing beauty.

On the north and south, at right-angles from the college buildings, forming two sides of a hollow square, will be erected the dwelling-houses for the professors, which will ultimately furnish accommodations for upwards of one hundred families; while in the rear, and upon higher ground, are the sites for the observatory, President's mansion, &c. The approach will be by well-constructed roads, curving by easy grades, so as to reach all parts of the plateau with facility and comfort. The grounds thus enclosed will be ornamented and planted after the plans of the most skilful horticultural and landscape engineers. Upon the college farm adjoining are already enough farm buildings for immediate use. These will be increased with all modern improvements as they are needed. The plans of the horticultural buildings are yet in embryo, but it is understood that they are to be in keeping with the whole design, and will be of the best character. The model horticultural farm of Mr. Cornell is situated on Crowbar Point, about seven miles distant on the west bank of the lake, consisting of nearly four hundred acres, with a south-easterly exposure. This is already planted with the best well-known varieties of fruits suited to the locality, and others of declared merit are on trial. These orchards and vineyards are under the charge of a competent horticulturist, and here the student can practically acquire knowledge, while comparing the teachings of McIntosh, Loudon, and Van Mons with actual results on American soil. The water of Cayuga Lake is a deep spring, which does not freeze over in the severest winters; and this has

a meliorating influence upon the climate.—Here the delicate peach ripens without failure, and here we may expect one day to drink the delicious Gunyardo* wines, rivaling the "delightful poison" of Jersahsheed.

Ithaca will hereafter be known by its literary institutions and its literary society, attracting people of refinement and taste, many of whom will seek a residence here for the enjoyment of kindred fellowship, and for the education of their children—And here the denizen of the city may retire from the unhealthy summer atmosphere, or avoid the approach of the cholera, locating himself on the borders of a lovely lake, among the finest scenery, with romantic walks and rambles among numerous waterfalls, and through ravines of the wildest beauty ‡ with which this country abounds; botanizing, mineralizing, or enjoying the country sports—driving, fishing, rowing, sailing, &c.; avoiding or inviting society at his own pleasure.

W. A. W.

* Poetic Indian for *Crowbar*; probably by the same student who consulted the "Old Authors" to find the Indian name of Cayuga.

‡ Nearly one hundred of these picturesque views have been photographed, embracing some of the finest stereoscopic views of American scenery.

ROCHESTER, N. Y., Dec. 4, 1865.
GENTLEMEN:—

In your December number, a correspondent "C," writing from Pittsburg, enquires about Rea's Seedling Quince, and says he had written to us for it, but we knew nothing about it. This is a mistake. We have grown Rea's seedling quince extensively for more than 10 years, and sold both at wholesale and retail during all that time.

We have some 20 large bearing trees of it in our specimen grounds. We consider it the best of the quinces. The Chinese quince your correspondent refers to, is not grown in this country for its fruit, but for ornament, and rarely produces fruit.

Yours,
ELLWANGER & BARRY.

DETROIT, Mich., Dec. 9, 1865.

Messrs. Woodward:

Gentlemen.—The November number of the *HORTICULTURIST* was not handed to me until that for December came. In answer to G. S.'s enquiry, I will say that we always planted the bulblets of gladioli in the spring ensuing their gathering, at the same time as planting the large bulbs.—They generally come up, but I have no doubt that they can be kept for eighteen months, and possibly longer, as these bulblets, physiologically speaking, are nothing but seeds. It is also possible, that by being kept over, their germinating qualities are perfected.

We have seeds that generally fail to grow the first year after gathering, as we have plants, the qualities of the blooming of which are increased by keeping as long as possible.

I shall take pleasure in sending you designs for the premiums.

E. FERRAND.

RESOLUTIONS OF THE OHIO STATE POMOLOGICAL SOCIETY ON THE DEPARTMENT OF AGRICULTURE.—The following resolutions were adopted unanimously by the Ohio Pomological Society, which has just closed its session in this city:

Resolved, That we feel deeply interested in the great Department of Agriculture connected with our Federal Government; that we desire its entire success, and believe it destined to contribute immensely to the advancement of Agriculture in the country; that we earnestly entreat the President of the United States to appoint a competent man to be the head of the Department of Agriculture; the incompetency of the present incumbent being a source of general remark and complaint from the intelligent agriculturists of all parts of our extended country. It is therefore

Resolved, That in the opinion of this convention, a change in the head of the Agricultural Department is imperatively needed

for the best interests of the producing classes of the country, and the President of the United States is most respectfully petitioned to listen to the complaints embodied in the foregoing resolutions.

(Signed,) JOHN A. WARDER,
President.

M. B. BATEHAM, *Secretary.*

OFFICERS AND DIRECTORS of the Milford and Orange Agricultural Society, elected at the annual meeting, held Nov. 7, 1865.

OFFICERS :

David Miles, *President.*

Elber J. Treat,
Caleb T. Merwin, } *Vice Presidents.*
Elisha E. Benhan,

Wm. H. Pond, *Secretary.*

Charles F. Smith, *Treasurer.*

DIRECTORS:

MILFORD.	ORANGE.
Wm. S. Pond,	Enoch Clark,
Isaac C. Smith,	Isaac A. Smith,
Chas. S. Baird,	Dennis Andrew,
Geo. Cornwall, 2d.,	Merwin Andrew,
Miles B. Merwin,	Albert F. Miles,
David B. Platt,	Nelson Tyler,
Wm. M. Merwin,	Geo. S. Kelsey,
Elijah B. Tibballs,	Leveret B. Treat.
Joiah P. Isbell,	Jay L. Northrop.

BOOKS, &c., RECEIVED.

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We notice, also, that Messrs. Ticknor and Fields announce a new literary weekly, to be called *Every Saturday*. Well, they understand precisely the art of making money in periodical literature. It is simple enough; this is all of it: publish a first class paper, employ the best talent in the country to write for it, and let the world know it, that is, advertise.

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This magazine, now in its second volume, bids fair to become a popular standard and welcome addition to the magazine literature of the country. It is ably edited, articles, well arranged and varied, and the publishers rank among the solid men of this city.

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DEPARTMENT OF AGRICULTURE Report for 1864.—We are indebted to James S. Grennell, Esq., late chief clerk of the Agricultural Department, for an advance copy of th s report. The great value of these reports of late years, is attributable mainly to the talent and industry of Mr. Grennell, a gentleman of rare ability in all matters pertaining to agriculture, and whom we hope to see placed in the position he is better qualified to fill than any other man in this country,—that of Commissioner of Agriculture. So important are our agricultural interests, and so vast is the influence of the agricultural bureau for good or evil, that the removal of Mr. Grennell from the position he so ably filled, can only be considered as a serious loss to the country.



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State of Illinois.

The rapid development of Illinois, its steady increase in population and wealth, and its capacity to produce cheap food, are matters for wonder and admiration. The United States Commissioner of Agriculture estimates the amounts of the principal crops of 1864, for the whole country, as follows: Indian corn, 530,581,403 bushels; wheat, 160,695,823 bushels; oats, 176,690,064 bushels; of which the farms of Illinois yielded 138,356,135 bushels of Indian corn; 33,371,173 bushels of wheat; and 24,573,751 bushels of oats—in reality more than one-fourth of the corn, more than one-fifth of the wheat, and almost one-seventh of the oats produced in all the United States.

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GALESBURG, KNOX Co., Ill., April 17, 1865.

Messrs. Wm. Perry & Son, Gentlemen—The box of Vines you sent me came to hand on the 13th inst. On opening it, I found the contents in fine order. Damp and moist, the Concord exceeded my most sanguine expectations. I never saw so many and such long roots of yearling vines before. The members of the Club appeared to be pleased with their vines.
Yours truly,

S. S. WHITE.

SHIRLEYSBURG, Pa., March 31, 1865.

Messrs. Wm. Perry & Son, Gentlemen—The Vines came to hand all safe, and, without a doubt, they are the strongest and healthiest vines I ever purchased, and I have bought of quite a number of nurseries, but none have compared with your vines. I am very sorry I did not purchase of you two years ago this spring.
Yours truly,

TERRE HAUTE, Ind., April 9 1865.

Messrs. Perry & Son, Dear Sirs—Enclosed please find draft on New York for \$135, for amount of your bill. The Grape Vines came to hand in due time. The vines are fine, and I am well pleased with them. You must be fine for the grape. I thought I raised the best plants in my soil of almost any other place; and yours is the first that I ever seen that would compare favorably with them. Your vines are good enough for my purpose. Yours respectfully,

WM. PATRICK.

IOWA CITY, Iowa, July 20, 1865.

Messrs. Wm. Perry & Son, Gentlemen—Your Price-List for fall of 1865 is at hand. The vines you sent me last spring were very small. Some are bearing this summer. I want, fall, 50 Iona, 25 Israella, 25 Adirondack vines.
Yours truly,

FEBRUARY, 1866.

ESTABLISHED IN 1846.

THE
HORTICULTURIST

Journal of Rural Art
and Rural Taste.



GEO. E. & F. W. WOODWARD, Publishers, 37 Park Row, New York.

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VOL. 21,-----1866.

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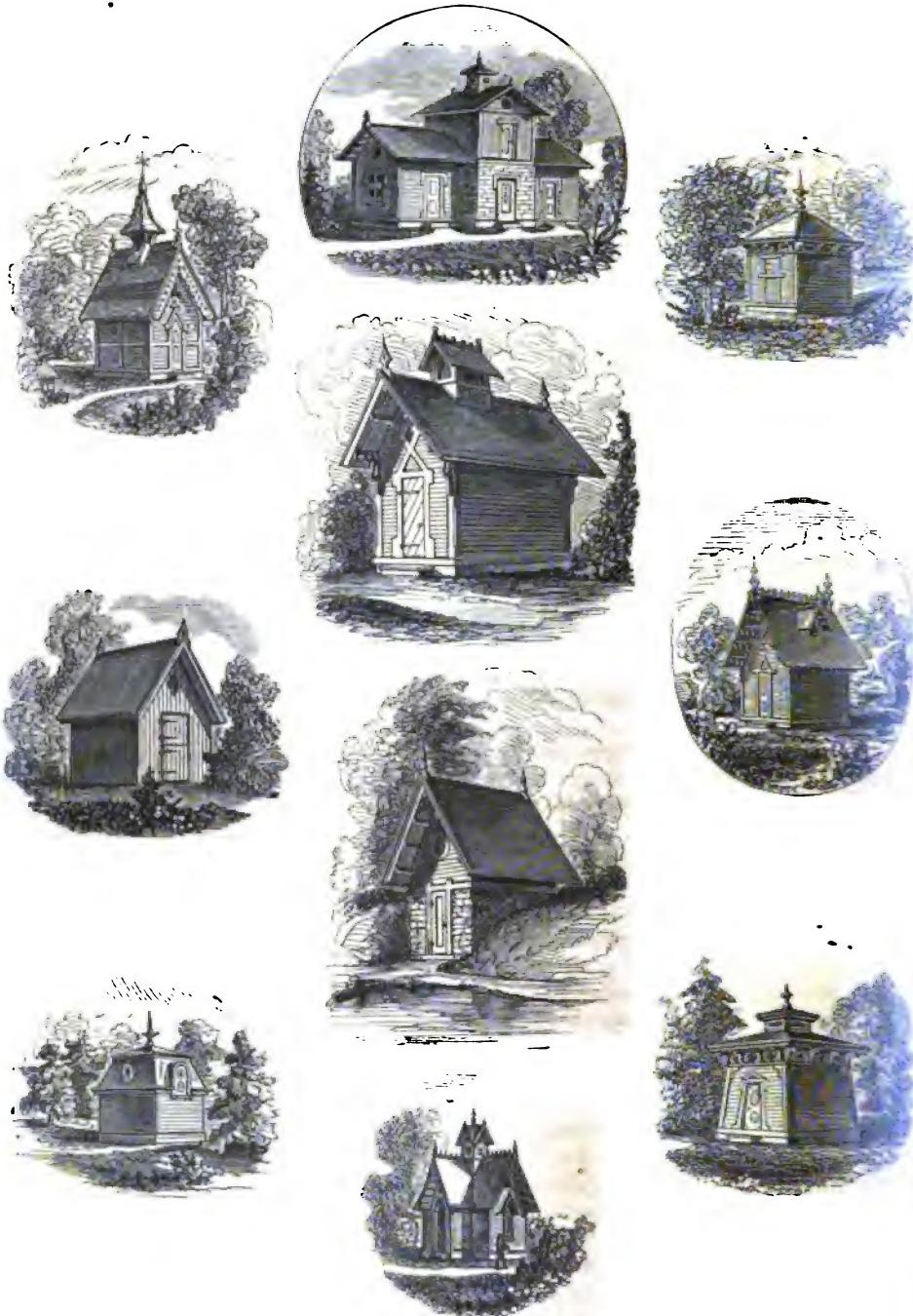
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DESIGNS AND PLANS FOR
ICE HOUSES,

Prepared for the **HORTICULTURIST**, Feb., 1866.

THE
HORTICULTURIST.

VOL. XXI.....FEBRUARY, 1866 NO. CCXXXVI.

THE FIRE ON THE HEARTH.

At this present season of the year, we may well turn our attention from without to within doors, and see by what means we may contrive to make the country home more attractive not only to its inmates, but to the stranger within its walls. And here at the outset, let it be well understood that our suggestions are intended for those who not only live in the country, but whose tastes and predilections are decidedly for rural life. We are writing not only for those who are obliged from circumstances to live in an humble manner, but for those who, with ample means, prefer real solid home comfort to pretence and empty show.

As we can often form an opinion of the character of a man, from the expression of his countenance, so, not unfrequently, we are able to judge, from the exterior of a country dwelling, what may be the character of its internal arrangement, and what may be the peculiar tastes of its occupants.

Some homes are so cold and forbidding in their external aspect, that it would seem as if no amount of cheerfulness could ever light up their hearth-stones; while others habitually wear such a smiling and benignant expression, that we long to cross their thresholds and make ourselves familiar with every nook and corner they contain; and is not this the case with old country houses? Is not this their peculiar characteristic? We rarely see one that it does not awaken ideas of true home comfort, which a more modern structure fails to impart; and we think this feeling is common to all persons of cultivation, more especially if they possess strong rural tastes. No matter what may be the peculiar architectural arrangement of the house, if time has mellowed it, this home feeling is almost sure to spring up at first sight. It may be the Gambrel roof, with or without its quaint balustrade; it may be the old New

England mansion, with its two stories in front, and its roof sloping almost to the ground behind and overshadowed by some venerable elm; or it may be the humble red farm-house, with its moss-covered roof. If these old dwellings possess so winning an exterior, in most cases we are not disappointed on entering them. We shall find that everything within comports with that air of quiet ease and comfort which is inherent, and to which no one thing contributes more than the open chimney place with its blazing wood-fire. The sight of this makes us perfectly at our ease—we want no more cordial welcome; and herein lies the essence of our present paper—the importance of the fire on the hearth, as a means of imparting health, cheerfulness and sociability to the inmates of the dwelling.

Let there be one room at least in every home, where the family, particularly if there be children, can gather around the chimney place, and watch, as they sit musing or talking, the flitting flame of either the hickory log, or, for lack of that, the bituminous coal; and by all means, let that fire-place be generous in its size—not, perhaps, so spacious as to allow all to sit within its very jaws, and to look up at the bright stars of heaven shining down from above—such a one we remember, years ago, in a rude cottage in the wilds of Maine, where we passed a night—but still ample enough for a good-sized log to be rolled behind and committed to its bed of ashes.

It is not often that we now see those rousing wood-fires of a former generation. They are no longer an actual necessity. Modern science has introduced many other methods for warding off the searching blasts of winter. The screens that were set up at our backs, as an additional means of attaining warmth and comfort, have now been folded up and laid aside. The innumerable logs of wood, usually sawed in the hottest days of July, by men who were part and parcel of the saw, and who never tired, however long and hot might be the day, are rarely wanted now. The large

stout leathern apron, with its convenient handles, by which the wood was carried to the fire-place, is no longer called for.

Our thoughts wander back to youthful days, and we call to mind a bar-room wood fire of a country inn in New Hampshire—a fire which never slumbered night or day through the cold season, and which was always ready, with its more than genial warmth, to welcome the shivering stage-passenger.

No one of the rising generation, we venture to say, ever saw such a fire upon the hearth—its huge logs piled one above the other, and sending up such volumes of flame that no near approach was possible. That fire has gone out now, and a cold, black funereal stove has usurped its place. So, too, have gone out the liberal wood fires of our fathers' kitchens, before which were roasted such ample sirloins, and over whose living coals such savory steaks were prepared.

But if these open fires are no longer a necessity as a means of affording warmth, are they not necessary as promoters of ventilation, cheerfulness and gladness in the household? We may easily decide this by comparing the atmosphere and cheerfulness of a room lighted up by a bright blazing fire, and one heated only by a furnace or by a closed stove, with every means of obtaining fresh air carefully cut off. No matter how high may be the temperature of such a room, if we enter it upon a cold day, and see no open fire, an involuntary shudder comes over us—more especially if no rays of sun-light enter to dispel the gloom.

How pleasant to those who dwell in cities, and who never know the brightness of a fire on their own hearths, is the recollection of the cosy wood-fire over which they sat in those frosty evenings of early autumn, following the bright, clear sunny days, in the distant farm-house among the mountains or by the sea-shore! The thoughts and aspirations of those happy hours will be far more lasting than the embers by the light of which they were kindled.

Let every man, then, who builds or occupies a house, particularly if it be in the country, see that he has at least one open chimney place or grate for either wood or coal. If he has any desire that his children should ever have happy associations with home, and that in after years their thoughts should revert with pleasure to the scenes of their youth, let the family fireside be something more than a name. If it be in any way practicable, let there be an open fire-place in every room in the house as a means of ventilation, especially in case of sickness ; and in the chamber, what can be more genial or more conducive to that quiet repose which we seek, than watching the fire-light flashing upon the ceiling ; and in the tedious hours of illness, what a friend and companion is this same fire-light.

Does not delightful Irving tell us that it was by the light of the open fire that the bold dragoon saw, as he lay snug in bed, the movements of the portrait, and although we may not desire to see anything so terrifying, it is at such times that portrait and picture exert a new influence upon our imagination, however familiar they may be to us. Yes, we should willingly part with many a luxury before we relinquish what we consider a necessity as well as perhaps a luxury.

In the construction of the fire place in the country house, good, even, well-burnt bricks answer every purpose, not only for the back and jambs, but also for the hearth. Soap-stone as well as freestone are now, however, widely used, and in point of elegance are, perhaps, to be preferred. Tiles of various patterns and colors make very pleasing hearths, which we in every way prefer to marble. If the old Dutch tiles can be procured, let them by all means adorn the fire-place. Your children will form strong associations with their quaint illustrations of Scripture. If they already

exist in the old house which you have purchased, consider them as sacred.

In the majority of country dwellings, particularly if they have any claims to antiquity, we should advise the use of wood in the construction of the mantle-piece. It seems far the most appropriate article for the purpose—certainly, much more so than marble. The wood may be chestnut, oak, walnut, butternut, or even pine, and it should be simply rubbed down and polished, but never varnished. The mantel-shelf should be deep and capacious, so that the articles placed upon it may not easily be thrown off. It is often, as we well know, a temporary resting place for almost every thing which goes astray ; we should not forget to mention those necessary accompaniments to the open fire-place, and which are so intimately associated with it, the andirons, formerly iron, or of highly polished brass or steel, the more or less elaborately constructed fender, and the ever useful bellows.

Where, from any cause, an open fire-place in the chimney is not practicable, its place may be supplied by the open grate set out into the room, constructed either of soap-stone or of iron. Those known as the Franklin Grate answer an admirable purpose, or, perhaps, still better, those manufactured in Philadelphia, of which the Editors of the *Horticulturist* speak in their columns.

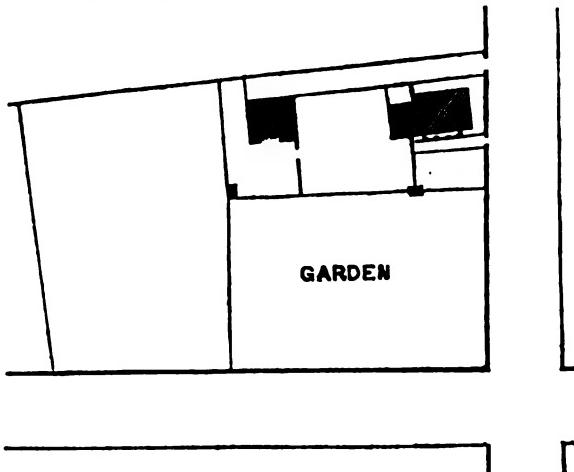
The closed stove and the furnace are well in their places. As Americans, we must have them, and we confess that they are often extremely convenient and useful, but they should not monopolize every room. If we value the health which good air, cheerfulness, and abundant ventilation are sure to give us and our children, in one apartment at least let us keep up a bright fire on the hearth.

Chestnut Hill, Dec., 1865.

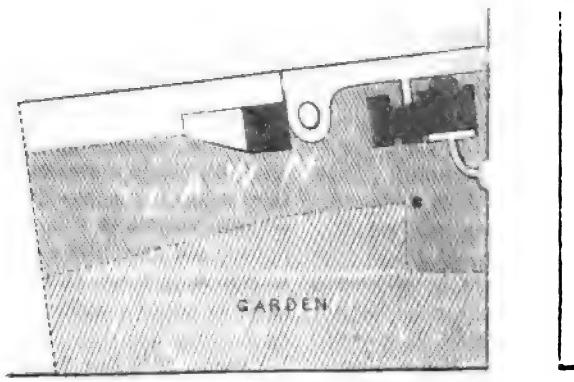
REMODELING OLD BUILDINGS AND GROUNDS.

BY GEO. E. WOODWARD, AUTHOR OF "WOODWARD'S COUNTRY HOMES."

THE farm we own and occupy consists of twenty-four acres of handsome upland, lying upon the great broad gauge Erie Railway, ten miles from the business centre of the commercial Metropolis. Twenty-two acres are in grass for pasture and hay, and the balance is devoted to ornamental grounds and garden. We show, in Fig. 6, the plan of two acres about the house at time of purchase, which by a former owner had been fenced into seven different enclosures, in accordance with the prevailing taste.

FIG. 6.—*Original Plan of Two Acres.*

The house is quite close to the road, which is some six or eight feet lower than the grounds. This we propose to treat in such a way by planting as to make the existence of the road unnoticeable to one sitting on the verandah, except, perhaps, by the rattle

FIG. 7.—*Plan of Two Acres improved.*

of a passing vehicle. The house faces the south-east, and the slope is gradual to the cross-road in front of the house. The garden spot, in location, protection, and exposure, is perfect, and its products, in quantity, quality and appearance, not to be excelled.

In Fig. 7 is shown the plan of the grounds

as altered; with all fences removed. The effect of this was to increase the apparent size and extent of the grounds. The darker shade on plan represents the part devoted to lawn and ornamental planting, and the lighter shade the fruit and vegetable garden. The fruit garden lying next the lawn.

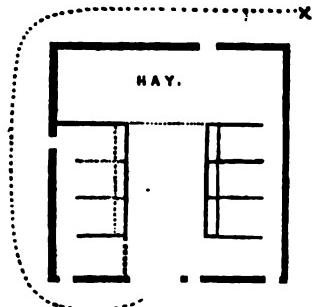


Fig. 8.—Old Plan of Barn.

The old barn, 36 feet square, built in 1806, again covered forty years later, is still a thoroughly substantial affair. The old mode of getting to it from the road was to drive around three sides of it. We changed the plan of it so as to go direct. See Fig. 8 and 9.

The removal of the barn-yard, poultry house, etc., from the front of the barn and out of sight of the house, was one of the most effective improvements. These

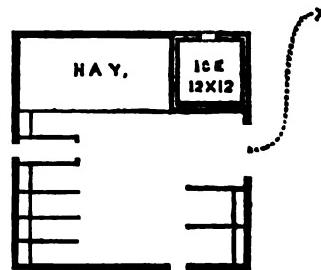


Fig. 9.—New Plan of Barn.

enclosures which now hide all wood-piles, wagons, compost heaps, rubbish, etc., are entirely out of way of the orderly neatness of the dress grounds. The fence on the left divides the lawn and garden from the pasture; this fence, being a light one, does not obstruct the view, so that the lawn, apparently uniting with pasture and hay lands, gives great extent of view. The surplus of the garden is easily fed out to the cattle in adjoining pasture.



Fig. 10.—The old Well House.

The old well, built of cut stone, and laid up at a time when work was done honestly, stands about 30 feet from the front of the house. The old well-house is shown in Fig.



Fig. 11.—The old Well House improved.

10, and in Fig. 11 we show what we did to it at a total expense of four dollars in these high-priced times.

Directly opposite the end of the veranda was the small entrance gate, as shown in Fig. 12. The path from this gate led straight to the corner post and along the edge of the platform. This point of entrance we removed twenty feet, and now approach the house by a curved line of

walk. Fig. 13 shows the style of entrance we have planned for erection in the spring. For this we are indebted to the serviceable hints of the accomplished author of "My Farm of Edgewood" in the valuable illustrated articles from his pen, for which see volume of the *HORTICULTURIST* for 1865.

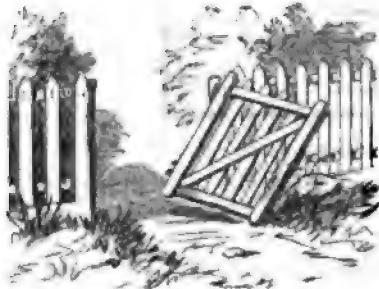


FIG. 12.—*The old Gate.*



FIG. 13.—*The new Entrance.*

It must not be supposed that in the short space of eight months all these changes have been completely finished, but the heavy work has been done, and a season or two must elapse for the new planting to develop itself and the twining vine to add its beauties to the different structures. Other alterations and improvements are being studied out, which at some future time we shall illustrate.

The question might be asked us, why not put these 24 acres into small fruits?—tomatoes, nursery stock, etc.,—would it not pay better than for hay? We answer decidedly, yes, the income could be made a very large one; but farming is our amusement. Our business is to make and publish the best Horticultural and Rural Art Magazine in the country, and we make farming pay in this manner. The labor is reduced to the capacity of one man; the hay lands require

top-dressing in winter, and by machinery the crop, when ready, is quickly harvested and stored, with extra assistance for a few days; the garden is cultivated to its utmost capacity, and horses and cows are fed from the products of the farm the year round.

A house of similar capacity (see Jan'y No.) in New York city, would cost us an annual rent of \$1,500. The interest on the cost or capital invested in our farm and the expenses of labor in working it, amounts to \$1,500. Our profit consists in family supplies and comforts, as follows:—Milk, butter, eggs, poultry, summer and winter vegetables, fruits, fire wood, water, ice, the keeping of, and attendance on a span of horses, increase of stock, etc.—items which in New York would cost at least \$1,500 to \$2,000 per annum. Add to this the annual increasing value of the farm, amounting to fully 20 per cent., per annum,

and it has been more than this for three years past, and it shows how we make farming profitable—a queer way of reasoning, some might say, but nevertheless

a true one for us. It pays well to own and hold on to a farm near a great city, if it is but 24 acres.

Wayside. N. J., January, 1866.

DISCREPANCIES OF THE GRAPE CULTURE.

BY THE AUTHOR OF "TEN ACRES ENOUGH."

Novices are by no means useless creatures. One can rarely encounter them, whether in politics, mechanics, or horticulture, without learning something, either from their acquisitions or their crudities.—Taking position with them on the grape culture, I admit my experience to be limited, though my crudities are extensive. The doctors of the art may learn nothing from the latter, yet they will be courteous enough to bear with me while I set them forth.

Touching the planting of grape vines in swampy ground. I have a meadow just reclaimed from the dominion of a thousand springs, which had no outlet until a ditch, 800 feet in length, was opened for the exit of their perpetual overflow. Under-drains, laid down 30 feet apart, stretch away from the ditch into the upland, and have so redeemed the soil that what was once a worthless jungle is now productive land, yielding crops of turnips, corn, and strawberries.—On both sides of this miraculous ditch two hundred vines of Delaware and Concord grapes were planted, just two years ago. The soil below them is pure muck, several feet in depth, covered by at least six to eight inches of sand, placed there to raise the meadow to a proper level. Repeated plowings have so thoroughly combined the muck and sand that the dark color of the former now predominates over most of the surface. This whole field is mellow as an ash-heap, nor does it ever suffer from drought. All stagnant water has been banished by drainage, hence it is into living water only that the vines project their roots.

These rows of vines have been subjects of

innumerable remarks from visitors, many of whom were experts in the grape culture.—Quite a number declared they would be a success, and quite as many that they would be a failure. But they were planted in the swamp as much for ornament as for use, hence it was not especially important whether they succeeded or failed—they would become an imposing feature in the landscape, even if they produced no grapes. But they have grown prodigiously, the Concords at least, and last season bore a reasonable crop. Those where most sand was laid upon the muck, have outstripped such as received none. They have made a profusion of wood, but only one or two of the Delawares have grown with any degree of vigor; the soil may be right for Concords, but wrong for the Delawares. I can discover no sufficient reason, as yet, for believing that this moist location will prove unsuitable. No mildew attacked either variety—in fact, I never saw a case of mildew—but the leaves of nearly all the Delawares were skeletonised by insects.

A friend writes me from Pennsylvania—“I always thought that moisture combined with heat was the cause of mildew. When we have a dry spell in July and August, then my grapes always do well, ripening perfectly, unless it becomes wet and cool in September. Now, at Boston they had heat and aridity, yet they also had much mildew. All over the West they complain of rot and mildew; even at Kelly's Island, where the Catawba rarely fails, this year they had rot and mildew. I now know less of the requirements of the grape vine than I thought I did forty years ago. Mr. Seun-

ders, foreman of the Propagating Garden at Washington, for a long time contended that aridity was the cause of mildew, then wavered, and confined his remarks about aridity to the exotic grape, gooseberry, and certain other exotic plants, now says that humidity is the cause of mildew on our native grapes, and by a covering to keep off moisture from the foliage, we can entirely prevent mildew."

The same intelligent correspondent is confounded by certain unexplainable discrepancies which he witnessed during the past season. A friend of his, five years ago, planted three hundred extra quality Delawares, which cost him \$400. The ground in which they were planted was trenched two to three feet deep, and the best culture was bestowed upon them. This last season, instead of tons of grapes, there were not ten pounds of perfect bunches. The leaves were all off by the middle of August, and no new wood for the next year. Other varieties were in equally bad condition.—While these out-door grapes were thus a total failure, yet on the same soil, without extra preparation, a grape-house containing many foreign varieties were in perfect health, bearing abundance of perfect fruit. At the same time, and on the same farm, the Isabella, Concord, and Catawba were bearing largely, free from defects, no mildew, fruit ripe a week or more earlier than at other places, and yet these vines are growing in water! He says—"There are some twenty or more large vines planted along a water-course, some of them surrounded with water, most of their roots under water the whole year. Some are close to the spring-house, on a strip of soil two feet wide, water all round, and undermined with muskrat holes. The soil is sand, gravel, rocks; never has been trenched, drained, or cultivated. There is a close sod of grass, which is mowed two or three times every season. The man simply dug holes to thrust in the plants, put up a trellis eight or nine feet high, ties up the vines,

and takes off loads of fruit for market every year. Nature does all that the vines require. Here were the finest, largest, and most perfect and luscious Isabellas, Catawbas and Concords that I have seen for many a day, if ever. The foliage was exposed to the drenching rains in July and August equally with all others, and yet was free from mildew. How are we to explain these various results? Your vines growing so near a drain may prove a similar success."

Certainly they may; for, excepting the soil and drainage, all the conditions just related are present. After the foregoing recital, I have strong faith in their succeeding. Up to this time it is an astonishment to the grape doctors that they were ever planted there. Hereafter, they may be an equal astonishment to them that their own vines had not been planted in a similar locality. My friend recites these discrepancies as nuts for other folks to crack, being harder ones than he can manage, though for forty years he has been a successful enthusiast in the grape culture. I content myself with merely putting them on record, being but a humble follower at the heels of many illustrious predecessors.

It strikes me there must be discrepancies of taste as well as of practice. There are those whose palates riot in the rank mustiness of the Fox grape, but I eschew it as I would physic. So all round the catalogue there is the same contrariety of taste. Two years ago a friend gave me a cutting from No. 8 of Rogers' Hybrids. I cut off an old Isabella that rarely ripened its fruit, some two inches below the ground, split the stump, inserted the graft, covered it up, and that season the graft made a growth of ten feet, ripening one bunch of grapes. The next season, 1865, it ripened thirty bunches, not very large ones, but perfect. It was the treasure of my garden. A multitude of gentlemen tasted of the fruit, no one being permitted the luxury of more than three or four grapes. The testimony in its favor was unanimous—it was the most delightful

native grape they had ever eaten, and I agreed with them. Yet the grape writers, as I occasionally see, pronounce it a poor affair, inferior to a dozen others which they name. How do such discrepancies occur? Is my taste so uneducated that I do not know what a good grape is when I taste it, and are my friends alike unsophisticated? Can it be because most of us eschew all foxiness?

A recent writer declares that trenching is too costly an operation, and that the resulting crops will not be sufficiently remunerative to warrant the outlay. But my idea is, that if we expect the top of a plant to feed us, we must first feed it at the bottom. Four years ago I took up a Concord vine entire, some forty feet in length, and laid it down in a prepared border sixty feet long, six feet wide, and two and a half feet deep, allowing the branches to stand up for future vines. The earth from this trench was all carted away, except the top soil, which was mixed with half decayed sods from a meadow, and with this preparation the trench was filled. The sods had been copiously limed, and several barrels of bones had been gathered up, and were scattered through the mass. The growth of this vine was perfectly amazing. A trellis sixty feet long was very soon required, and the past season's yield was equal to anything within my knowledge. One could scarcely touch the vine without coming in contact with a bunch of grapes. The bunches, moreover, were very large, not one of them showing an imperfect berry. As regards flavor, there was an unmistakable superiority over any other Concord I have ever eaten. The quantity yielded was not ascertained, but there is little doubt that the crop, if sent to Philadelphia, would have sold for fifty dollars. The preparation of this border cost a week's work; but its products have afforded convincing evidence of the value of proper preparation of the ground—feeding below as the condition for harvesting overhead. The soil, when all had been combined, was a

deep black. Many bunches ripened within six inches of the surface, and, thus affected by the higher temperature reflected from the ground, possessed a luscious flavor which the most uneducated palate could not fail to recognise and appreciate. In one end of the same border are two Delawares, two years planted, which refused to grow. As they happen to be quite out of the way, they may remain where they are, a little longer, on trial. Should they refuse to flourish under such elaborate care, the fact will develop a discrepancy for which a novice like myself will be unable to account.

While thus unprofitably gossiping of grapes, let me describe a monster vine which is growing wild within two miles of me. This vine, by measurement made some years ago, was ascertained to be six feet one inch round the trunk at three feet from the ground, and at ten feet high it is three feet in circumference. It has never produced fruit, being a male vine. Its branches cover four large forest trees. It is the great wonder of the neighborhood, and has been for generations past, as it is an undoubted remnant of the aboriginal forest, spared by some thoughtful proprietor when clearing up the land, probably because of its enormous dimensions, a hundred years ago. The celebrated vine at Hampton Court is a comparative dwarf beside this monster. It was probably growing vigorously before the continent was discovered, but old age is fast developing evidences of decay. The centre is becoming spongy and rotten, affording strong temptation for some wandering sportsman to apply his wanton match, and precipitate its doom. I have thought of preserving its huge trunk, and having it sawed into sections, for distribution among the archives of our numerous horticultural societies, to be labeled, preserved, and exhibited to the curious enquirer as mementoes of what the soil of New Jersey is capable of producing in the way of grape vines.

BEURRÉ VAN MONS.

From a specimen of this excellent pear, sent to us from the Mount Hope Nurseries, we have had the annexed engraving made.

The tree is described as vigorous and healthy, having an upright growth with yellow-brown wood.

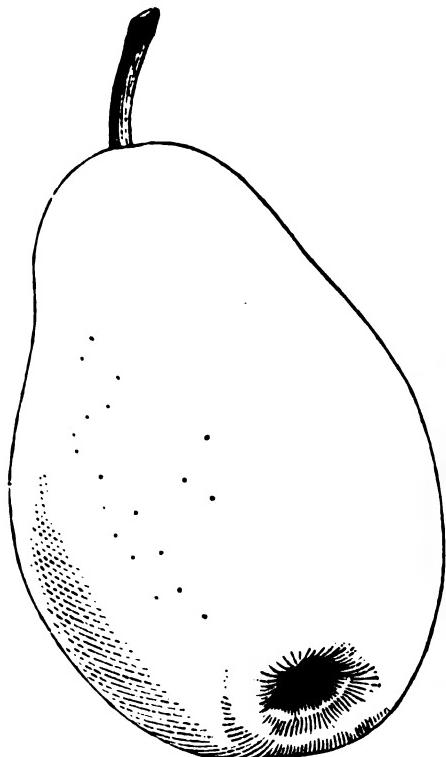


FIG. 1.—*Beurré Van Mons Pear.*

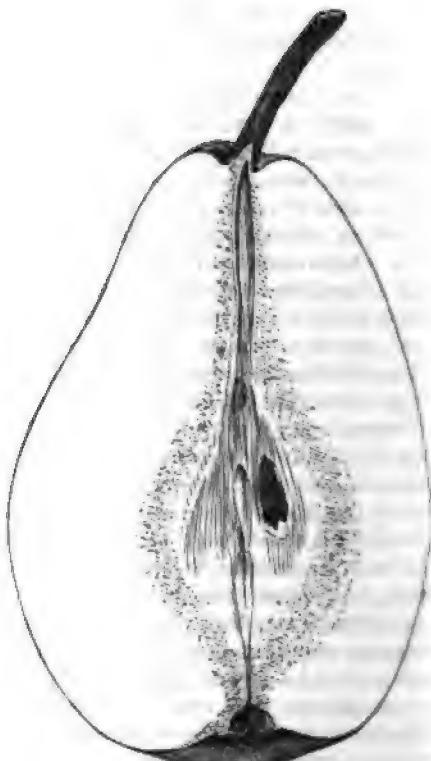


FIG. 2.—*Section.*

Fruit rather large. Skin smooth. Color yellowish, and a faint tinge of red on sunny side, with minute dots and sprinklings of russet. Calyx small, open, set in a smooth basin. Stem varying, seeds broad ovate. Flesh white, fine-grained, high-flavored and juicy; ripens in October.

From another authority we have the following:—

BARRONNE DE MELLO; ADELE DE ST. DENIS; BEURRE VAN MONS—Tree vigorous, upright, productive—an excellent variety

of foreign origin; fruit medium size, obovate, pyramidal, inclining to turbinate, slightly angular; skin yellow, nearly covered with cinnamon russet; stalk rather short, inserted at an inclination by a fleshy lip, or elongation of the fruit to the stalk by rings; calyx open, or partially closed; segments of medium length, a little recurved; basin small, shallow, uneven; flesh whitish, a little coarse, very juicy, melting, with a rich vinous flavor, slightly perfumed, quality very good, ripe in October.

FLOWER POTS.

BY E. S.

PLANTS and how to grow them have been the theme of many an interesting article in the pages of the HORTICULTURIST; the various compounds of soils are frequently discussed; we are told that the pots must be well and thoroughly drained, and the mode of placing the earth about the roots of the plants is given with considerable detail, but we have little or nothing about the pots themselves, or the best material to be used in their construction.

A late writer on flowers states that the common pot must be selected—"those which are light-colored rather than those which are brick-red; the former are soft-baked, and are more porous; in these the plants thrive better." We are further cautioned against the use of "glazed, china, glass or fancy painted pots, they being not porous, and the plants seldom thrive in them." If this advice is given, after a series of carefully conducted experiments have demonstrated its soundness, then it is worthy of all attention. But is it so? Is it not one of the old theories like the drainage subject (so ably disposed of by Peter Henderson, in a late number) handed down to us, untested, for generations? It is argued that the roots of plants need air, which is supplied through the pores of the pot.—How do the roots of plants obtain air, if it is necessary to their existence, in a state of nature? Is it not from the surface of the ground? Culture in pots is an unnatural and forced process; but those succeed best in such cultivation who imitate nature nearest in soils, moisture and temperature.

In the propagation of cuttings in pots, they are generally placed around the edge, under the supposition that they root more readily than if in the centre. This is not the case if the cuttings are properly treated, and not over-watered or neglected, as they generally are. In the former case, those in the centre damp off, while those

at the sides, having the benefit of the evaporation through the pores of the earthenware, do not receive any great surplus of moisture. By plunging the pots to the rim in sand or earth, and watering with moderation, all root equally well. Our large propagators discard the use of pots altogether, and plant their cuttings thickly in sand beds, where success is uniform. Now, Messrs. Editors, I, for one, do not believe in following in the old beaten track because all that have gone before us have done so. If there is a better way, let us find it out, and when we are satisfied that we are right, stick to our results at all hazards. I have been trying experiments, and my experiments have fully satisfied me that to attain the highest perfection in plant-growing, we must have something better than the common brick clay pot. In the room where I now write are two pots, containing bulbs of that charming winter-blooming plant, *Cyclamen Persicum*. One of the pots is glazed; this requires water but twice a week; the outside surface is of the temperature of the room, or nearly so; while its fellow, a soft, baked affair, requires water once a day, and then, even if the room is quite warm, the plant droops by night-fall; the surface is many degrees colder than the air, and the condition of the plant is inferior to the other.

Gardeners are considered slovenly when they allow green slimy growth on the outside of their pots; but they well know that this conduces to the health of their plants, preventing, to some extent, the evaporation from their surface that would be otherwise constantly going on, thus keeping the roots in a much lower temperature than they would be if planted in the earth.

The editor of the *London Cottage Gardener* truly says: "It was formerly considered important to have pots made of a material as porous as possible; but a more

miserable delusion never was handed down untested, from one generation to another. Stone-ware and china-ware are infinitely preferable, for they keep the roots more uniformly moist and warm. Common garden pots, if not plunged, should be thickly painted."

All practical men know, or ought to

know, the superior growth of plants in plunged pots over those exposed in the usual way; but few are willing to admit the true cause, which is that the evaporation from the surface of the common pot is thus prevented, and the roots of the plants are kept in a more equable condition as regards heat and moisture.

GLEANINGS.

I.

AMONG the most striking scenes of nature, I would instance the calm sublimity of a tropical night, when the stars, not sparkling, as in our northern skies, shed their soft and planetary light over the gently-heaving ocean; or I would recall the deep valleys of the Cordilleras, where the tall and slender palms pierce the leafy veil around them, and waving on high their feathery and arrow-like branches, form, as it were, a "forest above a forest;" or I would describe the summit of the peak of Teneriffe, when a horizontal layer of clouds, dazzling in whiteness, has separated the cone of cinders from the plain below, and suddenly the ascending current pierces the cloudy veil, so that the eye of the traveler may range from the brink of the crater, along the vine-clad slopes of Orotava, to the orange-gardens and banana-groves that skirt the shore. In scenes like these, it is not the peaceful charm spread over the face of nature that moves the heart, but rather the peculiar physiognomy and conformation of the land, the features of the landscape, the ever-varying outline of the clouds, and their blending with the horizon of the sea, whether it lies spread before us like a smooth and shining mirror, or is dimly seen through the morning mist. All that the senses can but imperfectly comprehend, all that is most awful in such romantic scenes of nature, may become a source of enjoyment to man, by opening a wild field to the creative powers of his imagination. Impressions change with the varying movements of the mind, and we are led by a happy illusion to believe that

we receive from the external world that with which we have ourselves invested it.

II.

SCIENCE proves, and we believe, such miracles as the following:—

The air is capable of solidification, liquefaction and color. A pressure from without of fifty miles deep of such air surrounds the earth.

Every adult supports a pressure on his own person of thirty thousand pounds' weight of this air.

Except for such an enormous compression from without, man would explode.

Except for this air, sound and life, including within them reason and language could not exist.

Many plants breathe, perspire, propagate by sexual distinctions, and possess a circulation of sensitive life.

The age of many trees which are, as it were, the aristocracy of plants, exceeds four thousand years.

There are, at least, no less than *sixty thousand* distinct species of such trees and plants.

The smallest insects are the architects by whom islands and continents have been built up out of the water.

The pyramids are constructed of stones formed of the concretions of minute shells of these insects; and all the chalk hills and chalk strata of the world are nothing but their excrements and remains.

Among land insects, the white ant and the bee have lived for thousands of years under hereditary institutions of established loyalty and order.

Others of these insects have *thirty thousand eyes*.

There have existed tribes of frogs, lizards, flying dragons, equal in dimensions to bisons, hippopotami, elephants.

The whole earth was once nothing but slime.

The earth, fifty miles beneath its surface, is in a state of fiery fusion.

The earth, and as far as we can infer, nature itself, has been at least a dozen times destroyed and again created.

If the earth were a little nearer the sun, it would be liquefied, and pass away in smoke by evaporation.

If the earth were where any other planet is, or any other planet where the earth is, the whole solar system would be thrown back into chaos.

The moon is a world destitute of all vital air, water, vegetation and verdure—a horror of unbreathing lifelessness.

Mercury is a world where granite would instantly fuse.

The sun attracts and discharges comets to and from distances of 70,000,000,000 miles from itself.

The moon revolves round the earth, the earth round the sun, the sun round a centre in the Pleiades, that centre round some other, and so on from centre to centre, in the invisible Infinite.

There are *eighteen millions* such suns and systems as ours in the Milky Way alone.

The Nebulae, or sun-stars of Orion, give us light at a distance requiring *sixty thousand years* for its transit. This light travels at the rate of *twelve million miles per minute*.

Beyond the furthest fields of telescopic

vision, there are other systems never to be visible to us on earth, because the light proceeding from them is, from their remoteness, decomposed in its transit, before it reaches us. That part of the universe, the vision of which is commanded by the earth, is thus necessarily limited;—it may not be 1,000,000,000th part of it.

There are behind these physical worlds, invisible and semi-immaterial powers:—heat, light, ether, galvanism, electricity, life.

III.

Cicero, in his work *de Natura Deorum*, ii, 37, furnishes the following striking passage from a lost work of Aristotle:

"If there were beings who lived in the depth of the earth, in dwellings adorned with statues and paintings, and every thing which is possessed in rich abundance by those whom we esteem fortunate; and if these beings could receive tidings of the power and might of the Gods, and could then emerge from their hidden dwellings through the open fissures of the earth, to the places which we inhabit; if they could suddenly behold the earth, and the sea, and the vault of heaven; could recognize the expanse of the cloudy firmament, and the might of the winds of heaven, and admire the sun in his majesty, beauty and radiant effulgence; and, lastly, when night veiled the earth in darkness, they could behold the starry heavens, the changing moon, and the stars rising and setting in the unvarying course ordained from eternity, they would surely exclaim, 'there are Gods, and such great things must be the work of their hands!'"

GRAPES IN 1865.

BY J. M. MERRICK, JR., WALPOLE, MASS.

I propose to give, as briefly as possible, a *resume* of the behavior of the various kinds of vines I have had under cultivation during the past year.

The fall of 1864 was very favorable to

the ripening of grape-wood. The summer had been very hot and dry, so that the vines made less wood than usual, but what did grow was very firm and hard. Then frost kept off wonderfully. Here, eighteen

miles south of Boston, vines, tomato plants, and tender vegetables were as green on the ninth of October as they were in June. The first frost that visited gardens occurred on the night of the ninth. Not a speck of mildew, nor a sign of leaf-blight or rot had been seen up to the last moment, and everything looked well for 1865.

The season which has just ended has been characterised by a very early spring, immunity from late frosts in May, very changeable weather until the middle of August, a hot and dry spell, lasting till the twentieth of September, and by the prevalence of mildew from the nineteenth of July till the first week in September.

Setting aside the ravages of the mildew, the season has been an excellent one for grapes, and very early withal—Concords and Delawares, for instance, ripening full three weeks earlier than the year before.

The vines which suffered from mildew with me are the following, which were affected in various degrees, those that were the most injured being named first, viz.:—Seedlings from the Catawba, Union Village, Concord, Diana and Rogers' 19; then Diana, Isabella, Adirondac, Isabella and Concord. Ionas, Allen's Hybrid and Clinton were untouched by mildew, and Concords only very slightly.

ALLEN'S HYBRID.

This vine has made an excellent growth the past year, strong, healthy and vigorous—appears to be proof against mildew, and is, I think, the handsomest vine cultivated.

ADIRONDAC.

This I have not fruited, and all I can say of it is that it mildews very badly.

CONCORD.

The Concord, of course, maintains its well-earned reputation for hardiness, health and vigor of growth. Mine were fully ripe on the fifth of September last year, instead of between the twentieth and twenty-sixth, as in 1864.

CREEVING.

My vines are too young to bear, but they have made an excellent growth of healthy short-jointed wood.

DELAWARE.

A few leaves mildewed and fell off in August, but the growth of the vines was splendid, and the fruit simply perfect.—Some of my vines made twelve feet of good wood, and would have gone further had they not been pinched off.

Fruit ripe September third.

DIANA.

Growth exceedingly vigorous, requiring frequent pinching; leaves a little touched with mildew, and most of the bunches ripened, with tolerable evenness, between the fifteenth and twentieth of September.

IONA.

Not in fruit, healthy, strong, and free from mildew.

ISABELLA.

A free grower, mildews badly, wood ripened well.

ISABELLA.

I have cut down all my Isabella vines save one, as worthless incumbrance. I never saw a ripe berry of this variety raised out-doors near Boston. The Catawba is cultivated a little here, under glass.

REBECCA.

Growth tolerable; vine somewhat affected with mildew.

ROGERS' HYBRIDS.

All the numbers I have under cultivation that were not touched by mildew, made an excellent growth, and No. 15 ripened its fruit very early.

These vines, for excellence, vigor, ease of propagation and elegance of growth, must be ranked very high, and are gaining a hold upon public confidence which will be hard to shake.

UNION VILLAGE.

Growth strong and vigorous, the leaves showing hardly a speck of mildew, and

making quite a contrast with my seedlings, from the same, which were fairly eaten up.

I have not seen on my own vines more than a dozen berries touched with the rot, and these were all Concord; but my next neighbor, whose Concords are trained upon a S. W. wall, loses two-thirds of his crop by rot every year.

A slight sensation has been created here by a vine called Mains' Seedling, stated to possess wonderfully good qualities; but Mr. E. W. Bull has shown, in the *Ploughman*, that it is in all probability nothing but the Concord. The "Sanbornton" grape, which has made some stir in the papers, has been pronounced to be "the veritable Isabella" by Mr. Bull, and we here think twice before we question any of his dicta.

When we look over a book like Prince's on the Cultivation of the Vine, and see the enormous number of out-door vines mentioned by the author—vines even the names of which have utterly perished—we are reminded how very far we are from having reached the perfect grape, and how well it becomes us to continue our experiments and researches.

If I thought that any reader of the HORTICULTURIST would give me an answer, I should ask whether there is any known method of expediting the germination of grape seeds, chemically or otherwise, and I should ask, too, whether any unknown friend is anxious to make me happy by a present of some seed of the Iona, Isabella, or Adirondac.

ESTHETICS OF RURAL LIFE.

BY ALGERNON SIDNEY AGRICOLA.

MESSRS. EDITORS:—

You have applied to me to write an article for the HORTICULTURIST, on the Esthetics of Rural Life. You have applied to the right man. Have I not lived and reveled in rural esthetics for two years? Have I not learned to distinguish a hen from a hawk, and a hawk from a handsaw? Have I not spent large sums for worthless manures? Have I not labored to conform to the impossible modes of culture laid down in the books? Have I not raised wheat at a cost of five dollars per bushel? Have I not eaten my own grapes, unripe to be sure, but the product of my own vines? Have I not spent twice as much for clothing as I did when I lived in the city, owing to the fact that broadcloth and fine linen have a tendency to get soiled in the barnyard, and that patent leather hath an affinity for lime? And do I not keep a dog? You have certainly come to the right man whether he is in the right place or not.

Friendly reader, who art confined amid brick and mortar, and brown stone and marble, come to the country for which you so often sigh, and contemplate with me some specimens of rural esthetics. Come with me to the henry and behold four white, round, beautiful fresh laid eggs, the product of forty-eight hens. Does it take twelve hens to make one egg, do you ask? My friend, esthetics have little to do with philosophy? Philosophy inquires into the origin and causes of things. Esthetics are content to admire.

Admire the eggs. How beautiful in themselves! How suggestive of good coffee, buckwheat cakes, and a morning chat with Anna!

My neighbor Franco who has not made esthetics a study, affirms that his white Camellias, now in bloom, are more beautiful than eggs. This wild opinion is not, after all, owing so much to his want of taste as to the fact that his hens do not lay!

Do you call that an egg, do you ask?

No, it is a miserable imitation in porcelain. The featherless biped thought he could deceive the feathered one. None are deceived by them but the purchasers.

Didnt think hens knew so much ? I am afraid you adopted your opinion as to their shallowness, from Old Tiff. Hens are acquainted with some of the fundamental principles of political economy. What principles ? The principle that the product belongs to the producer, when the producer furnishes the materials. How does it appear that they know this principle ? Deeds speak louder than words. The hens often eat their own eggs.

Connected with the beauty of eggs is the beauty of sounds. The poet informs us, that rural sounds, as well as rural sights, are delightful. The reader may not perhaps know, that whenever a hen has laid an egg, she makes a vocal announcement of the fact by a series of notes, running nearly through the entire scale, and more striking if not more beautiful than those oft times issuing from the lips of young ladies bending backwards from a piano. The other inhabitants of the henry join in the chorus, and repeat the swelling joy. There are few sounds more pleasant than the cackling of a hen when you are waiting for a newly laid egg.

Behold another specimen of rural esthetics in the shape of milk, warm from the cow ! The Alderney gives eight quarts a day. That's not much, do you say. The quantity is not great, but its quality ! Why the milk is richer than any cream that was ever sold in the New York market, if there ever was any sold there, a point which I do not regard as settled. Does it make good butter ? Good is not an epithet to be applied to it—nor better nor best. It would be necessary to invent a fourth degree of comparison to do it justice. And the beauty of it is, that it costs no more to make it now when butter is sixty cents a pound in the city, than it did when it was twenty cents a pound ? What did I give for the cow ? Two hundred dollars. How

much meal does she eat a day ? You would lead me into statistics : I am dealing with esthetics. Cost is not an element of beauty.

What is more beautiful than cream in combination with coffee ? How few of the inhabitants of the city have witnessed that combination ? What more beautiful than fair, round, puffy biscuit mixed wholly with cream ? How multiplied are the esthetics of rural life ?

Behold another choice specimen. That is beautiful honey. You may well say so. What element of beauty is wanting in it. Did I make it ? No, the bees made it. I may remark, that when I lived in the city, I was not celebrated for quickness at repartee, but it is wonderful what rural esthetics can do for a man. Where are the bees, now ? They are spending the cold weather within doors, like sensible beings as they are. When do they swarm, do you ask ? Well, mine have always swarmed on pleasant Sunday mornings, just as we were ready to set out for church. I always stopped and hived them, but owing to some cause, they would never stay in the hive. My swarms have always gone off, but the original stock remains.

Behold another specimen or other specimens. Pears in winter ! Yes, the Vicar of Winkfield is just in perfection now. Every man and woman of taste, who makes a sufficiently near approach to it is, charmed with it. Margaret admires it on account of its beauty and its romantic name ; although she has sought in vain through the pages of the Vicar of Wakefield for some account of its origin. Nice distinctions sometimes escape the female mind.

Behold another specimen in some respect superior to all,—the bird of Jove, Minerva, Venus and Mercury combined ; Nothing but a turkey, do you say ? Why not say of that brilliant that cost fifty bales of stolen cotton, nothing but a diamond ? Why not say, nothing but a nugget of gold weighing six hundred pounds ! Nothing but a turkey ! Oh shame ! Where

is thy blush? Can see plenty of them in the city? Did you ever see in the city, a form like that, so fair, so smooth, so plump! so powerful to awaken recollections of the past and anticipations of the future? We have read about the full-bosomed nymphs of other days. Homer and Horace were ignorant of turkeys or we should have numerous allusions to their soft and esculent bosoms. If you wish, O inhabitant of

the metropolis, to add to your knowledge, that of the true flavor of the turkey as he was made to be eaten, come and dine with me on a corn fed rural turkey. We will make you comfortable. We have no furnace to give out on a cold day. A blazing wood fire will look you honestly in the face. A wife whose voice of affection has never been out of tune for more than thirty years shall welcome you.

GARDENS AND PARKS OF GERMANY.—(Continued.)

THE finest public garden in Germany is that of the Sansouissci, at Potsdam, a town of about fifty thousand inhabitants, situated some twenty miles from Berlin, the capital of Prussia. These grounds belong to the royal family, and contain two royal palaces, built by Frederick the Great, under whom the gardens were laid out.—They are over a mile in length, and about two-thirds of a mile in breadth; but though so extensive, the whole aspect is much more that of a large garden than a park. The whole surface is laid out in winding walks, while through the centre runs a long broad avenue, cutting the garden into two parts. After entering through the porter's lodge, you pass through an avenue of trees along one side of the private garden of the king, and passing between two colossal white marble sphinxes, enter the garden. Passing by a few parquettes ornamented with bronze fountains, you reach the grand fountain, which throws a single jet 120 feet in height. This is surrounded by a number of allegorical statues in white marble. Just at the foot of the fountain rise the magnificent terraces which lead to the old castle of Sansouissci. They are six in number, rising one above the other, to a height of sixty feet. They are very wide, and extend out for many rods on either side of the broad steps by which you ascend them. They are laid out with beautiful beds of flowers, and covered with orange trees; at the time I saw them ladened with golden fruit;

and among the oranges were lemon, and fig, and olive trees, while up the walls of the terrace, the grape and ornamental vines were trained. The whole effect produced by this combination of terraces, as you view them either from above or below, was striking and beautiful, and equalled in no other garden that I have seen. Just at the summit stands the palace, a long, low edifice, with no pretensions to architectural beauty. It is adorned in front and shut off from the terraced ascent by an elegant marble colonade. Leaving the palace, you pass on through groves and clumps of shrubbery, by gracefully laid out parquettes and artistic arbors, among fountains, and marble and bronze groups in almost endless profusion, through the Sicilian garden devoted to tropical plants, and by the pinetum, losing yourself in the intricate maze of walks and shrubbery, only to come unawares upon some unexpected beauty. At length, ascending a broad flight of marble steps, you reach a spacious terrace, adorned with fountains, statues and urns.

It is fronted by an elegant balustrade of light grey marble, while back of it, rises the orangery, a splendid building, one thousand feet in length, and designed as the winter residence of the orange trees which adorn the terraces. Not far from here you see an old wind-mill, with great feather-like sails, rising up above the trees; and this old mill has its history.

When Frederick the Great laid out these

grounds, this mill stood in his way, but the miller owned the mill and the ground upon which it stood, and would not sell even to the king; so the king took it, and the miller sued him, and won his mill back. This pleased the whimsical king, and buying the mill sometime after, he pensioned the miller, and declared that the wind-mill should always remain in the gardens of Sansoussci.

After wandering through beautifully laid out grounds, for perhaps half an hour, you reach the New Palace, which is not new by any means, being more than a hundred years old. It is a very ugly looking immense building of red brick, surmounted by hundreds of stucco statues, causing the palace to look as if a regiment of men had been petrified upon its parapets.

The garden contains a multitude of grottos, temples and ruins; here a Chinese, there an antique temple. In one place a mausoleum containing a beautiful statue of Queen Louise of Prussia, while a little at the side of the garden proper is an Italian villa, situated in an Italian garden, and finished with very ornamental Romish baths. To one wandering through this garden it seems quite endless, and one stops so often to look at the various objects around him, that a whole day will pass without your having completed your survey. After going through the new palace, which is as magnificent internally as it is unpromising without, we walked straight back through the garden, down an avenue of grand old lindens a mile in length. Just as we reached the grand fountain, the sun was setting, and the mighty stream of water as it rose in the air caught the slanting sunbeams in its embrace, breaking them into a thousand prismatic rays, and then bending gracefully beneath its own weight, it descended, each liquid drop bathed in a flood of sunlit glory.

It has often struck me as strange, that we hear so little about these grounds, and that so few comparatively ever visit them. They are certainly the most interesting

that I have ever visited. Other gardens may surpass this in some one particular, but there are here a greater combination of beauties. It seems to be a peculiarity of the Germans to fill their gardens with all manner of little temples, and ruins, and grottos; some of them displaying a great degree of taste, and serving really as ornaments, while others mar rather than beautify.

Not far from the city of Heidelberg is the ducal garden of Schwebingen. It was laid out in the middle of the eighteenth century by the Grand Duke Charles Theodore, and is partly in the old French style. It contains nearly three hundred acres, and formerly some \$20,000 were yearly expended upon it. Of late years it has not received so much attention, but the grounds are still well kept, and are very beautiful. It is situated just back of an ugly old castle, through which you pass by means of large arched corridors. Upon entering the garden, you look down a broad vista, and see with a glance a part of the plan. The part nearest you is laid out in the form of an immense circle, cut into eight sectors by diverging walks. A broad avenue of trees bisects this circle, and loses itself in the groves at either side of you; while straight ahead a broad walk, lined with flower beds, leads to the centre of the circle. The centre-piece is formed by a large bronze fountain, representing Arion upon a Dolphin; while surrounding this are a number of children holding swans in their arms.—Leading away from the fountain are eight beautiful grass plats, and in the centre of each a tasteful bronze fountain. Around the periphery of the circle, upon the one half, run two of the most beautiful arbors that I have ever seen. They were built very simply of small slats, and were many rods in length, forming arcs of circles, and arcs of living green. They were so completely covered with luxuriant vines, that every vestige of a support was concealed.—Leaving the circle, you pass by four colossal groups, emblematic of the four seasons; by fine bronze groups and urns of flowers,

and reach a narrow lawn, bordered on either side by rows of stately old lindens clift in the French style, so that, as you looked down the vista, you saw a curved and regular facade of dense green foliage on either side. To the right and left of the lawn were groves of fine trees, laid out with walks in regular geometrical forms; and here the French style ended, for the remainder of the garden was laid out in winding walks, and clumps of trees opening upon green and irregular lawns. At the end of the long lawn was a small lake, and just here two colossal figures, reclining among high grasses and weeds, typical of the rivers Rhine and Danube. The lake branches out into broad outlets, forming charming little islands; and over these arms were thrown graceful rustic bridges. Everywhere as you pass along you chance upon pretty marble statues, and groups and fountains. In one place, surrounded by a dense thicket, was a huge Pan, seated upon a great rock, playing his pipe of reeds; and I remember once being very much amused by the remarks of some peasant women concerning harmless Pan, for they had concluded, after due deliberation, that he was a personification of the Devil. In another part of the garden was a round temple, built on a grotto of tufa, and dedicated to Apollo, whose statue adorned it. In front of the grotto two reclining maidens formed a fountain, by pouring water from urns over a series of low stone terraces. To the right of this was an elegant bath-house, which was connected by an arbor with a very curious fountain. In the basin of the fountain sat a bronze hawk, holding in its claws an unfortunate chicken of bronze; while around above, at a height of some twenty feet, stood a circle of enraged and bristling bronze hens and cocks, upon a bronze roost, in every attitude of defiance and rage. From the mouths of these twenty fowls streams of water were pouring down upon the guilty hawk, who in return was sending aloft, as if in defiance, a solitary opposing stream. But these are not half of the many wonders of this won-

derful garden. Here, embosomed in shrubbery, is an artificial ruin; there an ancient Roman aqueduct; here a mosque, with towering minarets and gilded courts; and there a temple of botany, designed to represent a segment of an immense tree.—This garden, in part, resembles Versailles, and in part Sansoucii; but it lacks the elegance and the fountains of the one, and the extent and terraces of the other.

It is not alone the princes, however, who thus seek to beautify their residences. At Frankfort-on-the-Main, in the beginning of this century, the old fortifications which surrounded the city were torn down, and where they once stood are now smiling gardens and lawns, neatly-trimmed walks and hedges encircling the city. One can take a carriage and drive for miles through beautiful avenues, with elegant mansions amid spacious grounds on the one side, and these public promenades on the other.

Certainly the wealth of this great financial centre has been well expended in making its environs to vie in beauty with those of any other European city. And so it is in the free city of Hamburg. The old walls have long since been leveled to the ground, the moat filled, and in their places have sprung up beautiful gardens and shady groves—a delight to the stranger, and a source of health and continued pleasure to the citizen. Nowhere have I seen such a profusion of palatial city residences, with beautiful grounds, as at Berlin. There are many streets in the new part of the city which are made up entirely of these private palaces. The houses are all of brick, and are covered with stucco, but so well is this done, that they at the first glance appear to be of solid stone. The Berlin artisans are very skillful in their use of stucco; and the houses are often most elaborately ornamented with statues, caryatides, and relieves. The stucco work is always painted, and much taste is displayed in the various shades of coloring, giving an agreeable variety, and avoiding monotony.

(To be continued.)

THE NEW ERA IN GRAPE CULTURE.—IV.

BY GEORGE HUmann.

But after all this talk of making grape culture easy, Messrs. Editors, I suppose that your readers wish to know something about its results. They will naturally say: All this talk may look well and enticing enough, but if the work is made so easy, will not its results be comparatively light? A natural question; and one which I will endeavor to answer, by giving the returns of this season, generally conceded to have been the worst for rot and mildew we have ever had at the West; from the same vineyard, which was prepared with the plough, at a cost of \$25 per acre, and which my tenant has been working on shares for four years now. Here they are:

500 vines of Concord, planted 1861, distance 6 x 6, about 4-tenths of an acre, pro- duced 1,030 gallons of wine; average value, \$2.50 per gallon.....	\$2,575 00
1,300 vines of Norton's Virginia, planted same distance, about an acre, produced 1,300 gallons of wine, average value, 4 dollars.....	5,200 00
100 vines of Herbeumont, planted same dis- tance, produced 125 gallons, average value, 3 dollars per gallon.....	375 00
50 vines Cunningham, produced 30 gallons, average value, 4 dollars.....	120 00
250 vines Delaware, planted 4 x 6, about one-fifth of an acre, produced 40 gal- lons, average value, 6 dollars.....	240 00
12 bearing vines of Hartford Prolific, pro- duced 336 lbs. of grapes, marketed at 20 cents per lb.....	67 20
12 vines Clinton, produced 10 gallons wine, value, 3 dollars.....	30 00
Wine made from other varieties, about 50 gallons, at 3 dollars	150 00
Total in bearing, about 2 acres	8,737 20
Deduct from this for interest from capital, labor, carts	1,000 00
Leaves a clear profit of.....	\$7,737 20
To which may be added 57,000 vines grown from the cuttings clipped from the vineyard, at an average of 100 dollars per 1,000.....	5,700 00
Total.....	\$13,437 20

How do you like this record of a bad season? Can Grant, Mead & Co. show a

better? With all the costly preparation of soil, Thomery system of training, &c., can they do more? By-the-bye, Messrs. Editors, allow me through your columns, to ask Dr. Grant, my friend Fuller, and others to answer a single question. It is this: How is it, that they can give us theories, very practical even, which look very fine on paper, read very plausible, yet we never hear of the results? If their method is so very profitable, they would, I am sure, do the public a favor, if they would give us statistics of the growths. Will not our brother grapegrowers generally, give us a little bit of history, and more facts, through your columns? I am sure your readers would appreciate them.

And now let me give a few hints to our friend Reuben, in all friendliness and kindness, as I am sure his criticisms are made in the same spirit. He makes objections to adding the value of the plants grown, to the products of the vineyard; and wishes to have only the returns from the fruit. Well, possibly, this looks a little like fault-finding. What hinders him, or anybody else, to figure it up separately, should they so choose. To us, and I think, to every one else, who can sell the plants, the grape wood is quite an object, which it would surely be folly not to use, and let me tell him, that this season's experience shows again, that there are not half enough of the really valuable varieties in the market yet to meet the demand. I know that I am speaking against my own interest here, as a propagator of vines; but I do wish (and will do all in my power to teach them how to do it;) that every grape grower should raise his own plants, at least to enlarge his vineyard. The process is simple enough. Let him prune his vines in the fall, as soon as they have dropped their

leaves, and cut all the sound, well-ripened wood of the summer's growth, into cuttings of from two to three buds each. These are cut close below the lowest eye, tied into convenient bundles, and buried in the ground, until next spring. As soon in spring as the condition of the soil will permit, a good mellow piece of soil is prepared by plowing deeply, and mellowing up well; then take a spade, and set it down perpendicularly, moving it a little, so as to open the cut, and let one follow with the cuttings, insert them into the cut made with the spade, and press them down firmly, so that the upper eye or bud is even with the ground, and then press the ground firmly against the cuttings with your foot; make the rows two feet apart; and put the cuttings about two inches apart in the rows. Mulch the bed with straw or litter, about two inches deep, and pull out the weeds whenever it is necessary during the summer. You may take my word for it, that you can raise an abundance of good, healthy and thrifty plants in this way, which will answer your purpose better than the majority of plants raised by professional growers under glass, and which are arrogantly lauded and puffed as "superior to all others grown." In sober truth, Messrs. Editors, I begin to have a horror of these so-called "superior plants," and "layers for immediate bearing," which some of our professional men will advertise with a great flourish of trumpets; and which a good many simple, confiding souls will buy, with a vision of a fine crop of grapes the same summer before their eyes, and for which they will pay from three to five dollars a piece. The whole idea of "immediate bearing" is wrong. Even if they succeed in getting a few sickly bunches from a newly transplanted vine, it is done at an immense cost of the vitality and vigor of the plant. No fruit should be required from a vine until the third summer after planting, and then, if it has been taken good care of, it is able to produce a *good* crop, whereas you may force a vine to bear a few

bunches prematurely, but you will do so at the cost of almost its life, and stunt it for several years to come. It is like putting the burden of a full-grown man on the shoulders of a little child. While I would advise every one to plant good, strong, vigorous plants, I would caution him also against too early bearing. Let the vine first have the vigor necessary for the task, and it will bear its burden willingly, and bear such fruit as will rejoice the eye, tickle the palate, and make wine which will truly "gladden the heart of man." It is time that our grape growing public understand this; that they comprehend when they task their vines too early, they do so at a fearful cost of vitality and vigor. Many promising young vineyards are ruined annually, by their owner's over-impatience for a crop; and it will not do for professional men, who ought to, and *do* know better, to tell their confiding customers stories of "immediate bearing," simply because it will induce them to pay an additional dollar or so, to put into the propagator's pocket. Our customers should pay us, who grow vines for their benefit, *well* for *really good* plants, but do not let us mislead them into false practices, simply because it may be for *our* benefit. And let us be a little more charitable towards each other. We can all grow good plants, as near perfection as may be, and it is our duty to do so. And let us not be afraid to let the public know a little of our propagating practices. Even if they do grow a good many plants themselves, we will find enough to do yet, to supply those who do not. Let us make grape-growing easy, wherever we can, so that it may increase and spread over the whole length of the land, from Maine to California.

A few words more about friend Reuben's criticism on the October number, and I shall not inflict any stronger dose of "*grape-growing made easy*" upon your readers. It is his remark on my method of summer pruning, which he has evidently not clearly understood. Please bear in mind,

friend Reuben, that the pinching is done *very early*; but instead of robbing the plant of its leaves, the young shoots are pinched *before* the leaves have developed, and by checking the growth of the leading shoot, we force the laterals out, and form and develop new and vigorous leaves on them, just where they ought to be, opposite each bunch, and that these new leaves will serve as conductors of sap to the young bunch. It is only a gentle checking, *not robbing* of leaves, in fact it "makes four leaves grow, and in a better place, where there was one before." This is, in my opinion, perfectly in harmony with the "laws of vegetable physiology," and the same principle lays at the root of it, which we follow in pinching in dwarf pear trees. Please try it, friend Reuben, on only a single vine, if you will not risk it on more, and report progress; or what is better still, come and visit me next summer, and I will show you its results. I think anyhow,

that the greatest success is an indication of the best method and theory, and really, some of our artists remind me of one of my neighbors, an old vintner, grown grey in the business, but who follows his method and old foggy practice strictly. He will come and look at my grapes several times every summer, and will admit that I grow a great many more, and much finer grapes than he does, "But neighbor," he will say, "you are wrong anyway, your method is not right." My "method" is to find how I can grow the most and best fruit, with the least labor and cost, and as long as I succeed in this, I do not mind the old rules so very strictly.

In another paper, I may give your readers a report on the different varieties of grapes, and how each of them has behaved during this, the most trying summer we have had, as long as we have grown grapes here.

Hermann, Mo., Dec. 14, 1865.

THE CIRCULATION OF THE SAP IN TREES.

THE first vital function in trees, after the frost is moderated, and the earth is sufficiently thawed, is the ascent of the sap, which is taken up by the absorbent vessels composing the inner bark of the tree, and reaching to the extremity of the fibres of the roots. The water thus imbibed by the roots is there mixed with a quantity of saccharine matter, and formed into sap, whence it is distributed in great abundance to every individual bud. The great quantity of sweet liquid sap provided for the nourishment of some trees is evident from the prevalent custom of *tapping* trees, to draw off their fluids for various purposes.—In the tropical regions this method is employed by the inhabitants to procure their favorite liquor—palm oil, and also the sap from which they make India rubber and gutta percha. In the Northern States and Canada the sap of the sugar maple is procured in the same way, which, being boiled

down, yields sugar of a well-known peculiar flavor and richness.

This great accession of nourishment, when the sap begins to flow freely, causes the bud to swell, to break through its covering, and to spread into blossoms, or to lengthen into a shoot bearing leaves. This is the first process, and, properly speaking, is all that belongs to the springing or elongation of trees; and in many plants, that is, all those which are annual or deciduous, there is no other process. The plant absorbs juices from the earth, and in proportion to the quantity of these juices, increases in size; it expands its blossoms, perfects its fruit, and when the ground is incapable, by drought or frost, of yielding any more moisture, or when the vessels of the plant are not able to draw it up, the plant perishes. But in trees, though the beginning and end of the first process is exactly similar to that which takes place in

vegetables, yet there is a second process which, at the same time that it adds to their bulk, enables them to endure, and go on increasing through a long series of years.

The second process begins soon after the first, in this way :—At the base of the foot-stalk of each leaf a small bud is gradually formed, but the absorbent vessels of the leaf have exhausted themselves in the formation of the bud, and are unable to bring it nearer to maturity. In this state it resembles exactly a seed, containing within it the rudiments of vegetation, but destitute of absorbent vessels to nourish and evolve the embryo. Being surrounded, however, by sap, like a seed in moist earth, it is in a proper situation for growing; the influence of the sun sets in motion the juices of the bud and of the seed, and the first operation in both of them is to send down roots a certain depth into the ground, for the purpose of obtaining the necessary moisture. The bud, accordingly, shoots down its roots, so to say, upon the inner bark of the tree, till they reach the part covered by the earth. Winter now arriving, the cold and defect of moisture, owing to the clogged condition of the absorbent vessels, cause the fruit and leaves to fall, so that, except the provision of buds with roots along the inner bark, the remainder

of the tree, like an annual plant, is dead.—The leaves, the flowers, the fruit are gone; and what was the inner bark is no longer organized, while the roots of the buds form a new inner bark; and thus the buds with their roots contain all that remains alive of the whole tree. It is owing to this annual renovation of the inner bark that the tree increases in bulk; and a new coating being added every year, we are hence furnished with an easy and exact method of ascertaining the age of a tree, by counting the number of concentric circles of which the trunk is composed.

A tree, therefore, properly speaking, is rather a congeries of a multitude of annual plants than a perennial individual. The sap in trees always rises as soon as the frost is abated, so that when the stimulus of the warm weather in the early spring acts upon the bud, there should be at hand a supply of food for its nourishment; and if by any means the sap is prevented from ascending at the proper time, the tree infallibly perishes. Remarkable examples of this method of destroying the life of trees are seen everywhere in our new western country, where immense forests are killed by the simple process of *girdling*, that is, cutting a ring around the tree through the inner bark, and thus interrupting the circulation of the sap.

LEAVES.

We are all familiar with *leaves*, in the various stages of their life, growth and decay. We watch, with interest, their outbursting in spring, their tender and delicate beauty, so refreshing to the eye, after the desolations of the long winter. We admire them in their full summer development, their rich, luxuriant greenness, and the exuberance in which they clothe the stems on which they grow. Their autumn beauty is not less attractive to the thoughtful mind, when, many-tinted, golden, russet, pale-yellow, brown, and scarlet, they

hang, a crown of glory, upon the woods. Has it ever occurred to us to inquire, what is a leaf?

Every leaf is in itself a distinct individual, the blossoms themselves being mere leaves adapted for a special purpose. A tree, like a compound zoophyte, is a colony of individuals, bound into a community, or body corporate, by means of the living bark enclosing and producing a woody skeleton or support.

The leaves of a tree, like the polypes of the coralline, are distinct from each other,

yet united by means of a living tissue, which commenced its development in the seed—in the pip, in the acorn, or the beechmast. Moreover, as in the polypes of the coral, some are destined for nutrition, others for reproduction; so in the tree or shrub, some of the leaves are intended as organs of respiration, secretion, and the digestion of the fluids conveyed to them through the inner bark, converting them into either bitters or sweets, or acids, into nutriment or poison, so far as the animal kingdom is concerned. Others again are modified, and become what we term flowers, exhaling delicious odors, or repellent effluvia; and these flowers are designed for the continuance of the species.

Professor Forbes says, "We are not in the habit of regarding the leaf as the individual; popularly we look at the whole plant as the individual; yet every botanist knows that it is a combination of individuals, and if so, each series of buds must certainly be regarded as generations."

No leaf falls until provision is made for a successor; and the bud which is developed before the face of the decaying leaf, may be, in its turn, either a leaf only, or that modification of a leaf which we term a flower. Such, then, is a leaf; dying, it leaves its embryo successors; and the tree may be truly said to pass them into a state of hibernation. There are no longer leaves requiring food from the vessels of the inner rind; hence the activity of these tubes would be to no purpose; the bark sleeps; the woody skeleton can scarcely be said to possess organic life; of the pith we know little. Yet in such trees as the alder, in the youngest branches of which the pith is abundant, and is at this time juicy, though it becomes dry afterwards, we cannot but suppose that it subserves some important purpose. This pith, or medulla, it may be observed, is usually most abundant in young and growing branches; and some naturalists have deemed it the seat of that irritability which many plants so remarkably display. Others, again, suppose it to be a re-

servoir of moisture, as a supply to the leaves, whenever an excess of perspiration renders such assistance necessary. It is said that a direct communication by vessels has been actually traced between the pith and the leaf. "Plants seem to require some such reservoir; for their young leaves are excessively tender; they perspire much, and cannot, like animals, fly to the shade or brook."

But it must be observed in reference to this theory, that all the moisture in the pith of a whole branch, is in some cases too little to supply one hour's perspiration for a single leaf. Nor does observation show that this moisture of the pith varies, let the leaves be ever so flaccid. It is probable, therefore, that the pith is in some way, a reservoir of vital energy, but not as supplying moisture to the exhausted leaves.

But it is not the purpose of this paper to follow up any mooted point in vegetable physiology, but rather to indicate some of the more obvious phenomena of leaves. Suffice it to say, that having fulfilled their duties, like all organic things, they begin to fade, and dying are scattered by the winds from off the rind or bark, between which and themselves a line of demarcation is drawn. For at a definite point the sap-vessels lose their vital energy, and becoming obliterated the supply to the leaf is arrested. A mere touch will cause the leaf to fall at the axillary junction of its stalk or twig; but then the bud has been duly elaborated, a bud to be unfolded on the return of spring.

How cheerless is the garden in November; the sear and yellow leaves are fallen in showers from the trees, and drifted by the wind they strew the gravelled paths,—cover the flower beds, collect around the roots of shrubs and bushes, or are driven into heaps in corners. The summer flowers have faded, but here and there a pale blossom of the monthly rose still lingers on its stem; the showy Dahlia yet holds out, struggling against fate, and the Aster and Chrysanthemums flaunt in colors of regal beauty. The Barberry bush hangs

out its pendant streamers of wax-like berries, coral red. The holly looks fresher even than ever, and its berries are ruddy and beautiful. Green is the hedge of Privet, with its jet-black clusters of berries, producing a pleasing contrast.

Rapidly, at this season, the deciduous trees and shrubs lose their foliage—their leaves cover the ground as with a garment, affording protection from the cold to the buried roots of plants which need defence from the winter; but this is not their only use, they serve a second important purpose. As the spring comes on with its warm showers, they fall into decomposition, and afford a rich manure to the roots which they shielded during the severe season. They form in their decay a rich vegetable mould—a natural top-dressing to the subjacent soil, and thus render it lighter and

richer. Well does the gardener know the value of decomposed vegetable matter as manure; and one reason why many of our rarer wild flowers seldom flourish when introduced into the garden, is the deficiency in the soil of pure vegetable mould; for gardens are usually cleared from time to time of their leafy litter, while in our woods and copses, and along our fences and hedges, the decaying foliage remains where it fell, and year after year adds fresh nutriment to the sandy or argillaceous substratum. Thus it is that nature manures the soil, and adds successive coverings of vegetable mould to the surface of the sterile ground, or the rocky bed, until plants of a higher order succeed the lichens and mosses which first spread upon the once naked surface, and in their turn add to the increase of the fertile layer.

FEBRUARY.

The month of February, according to Verstegan, was called by our Saxon ancestors, *Sprout-kole*. The kele-wort, which is now called cole wort, was, in times long past, the most common pot-herb used by our ancestors, and the broth made with it was therefore called *kale-broth*. This broth supplied to a large extent, the winter sustenance of the Saxon husbandman and his family. During this month the plant began to put forth its young and tender sprouts, and hence the name, *Sprout-kole*.

February had, also, in those early times the name of *Salomonath*, which on the authority of the venerable Bede, means *Pan-cake-month*. Because at this season the Pagan Saxons were accustomed to offer up "cakes" in their worship of the sun.

The Latin *Februarius*, the original of the name by which we designate the month, is derived from the word *sevra*, which signified an expiatory, or purifying sacrifice offered to the *Manes*, because in this month the Luperci, or priests of Pan, perambulated the city, carrying thongs of goat-

skin, with which they scourged delinquents, and this was received for an expiation.

On Candlemas eve, the 1st of February, was kindled the *Yule-brand*, which was allowed to burn till sunset, when it was extinguished and carefully laid aside and preserved, to be used for lighting the Christmas log at the next return of the season. The prevailing superstition connected with the preservation of the *Yule-brand* is thus noticed by Herrick:

And, where 'tis safety kept, the fiend
Can do no mischief there.

February can hardly be regarded as a pleasant or comfortable month in any part of the country north of latitude 35 degs. Indeed in some of our northern States the cold and tempest are most severe; the snow lies in deep drifts; the waters are fast bound in icy fetters; and there are no signs except, perhaps, in the perceptible lengthening of the days, and the increase of meridian brightness and heat, of the approach of Spring. In the milder middle

regions, the breaking up of winter; the elemental conflict between the retiring and the incoming seasons; the freezing and the thawing, are vividly enough described in *Howitt's Book of the Seasons*:—There is a lack of comfort felt everywhere. In real winter weather the clear, pure frosty air sharply saluted the face by day, and revealed to the eye at night, a scene of pure and sublime splendor in the lofty and intensely blue sky, glittering with congregated stars, or irradiated with the placid moon. There was a sense of vigor, of elasticity, of freshness about you, which made it welcome; but now, most commonly, by day or by night, the sky is hidden in impenetrable vapor; the earth is sodden, and splashy and wet; even the fireside does not escape the comfortless sense of humidity. Everything presents to the eye, accustomed so long to the brightness of clear frosts, and the pure whiteness of snow, a dingy and soiled aspect. All things are dripping with wet; it hangs upon the walls like heavy dew; it penetrates into the drawers and wardrobes of your warmest chambers; and you are surprised at the unusual dampness of your clothes, linen, books, and papers; and in short, almost everything you have occasion to examine. Brick and stone floors are now dangerous things for thinly-clad people to stand upon. To this source, and, in fact, to the dampness of this month, operating in various ways, may be attributed not a few of

the colds, coughs, and consumptions so prevalent in England. Pavements are frequently so much elevated by the expansion of the moisture beneath, as to obstruct the opening and shutting of doors and gates; and your gravel walks resemble saturated sponges. Abroad, the streets are flooded with muddy water, and slippery with patches of half-thawed ice and snow, which strikes through your shoes in a moment.

The houses, and all objects whatever, have a dirty and disconsolate aspect; and clouds of dim, smoky haze hover over the whole dispiriting scene. In the country the prospect is not much better; the roads are full of mire. In the woods and copsees you hear a continual dripping and pattering of wet; while the fieldfares, instead of flying across the country with a pleasant chattering, sit solitarily among the comfortless trees, uttering their plaintive cry of "cock-shute," "cock-shute," and the very rooks peer about after worms in the fields with a drooping air. Instead of the enchantment of hoar-frost, you have naked hedges, sallow and decaying weeds beneath them, brown and wet pastures, and sheets of ice, but recently affording so much fine exercise to skaters and sliders, half submerged in water, full of great cracks, scattered with straws and dirty patches, and stones half liberated by the thaw. Such are the miserable features of the time.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 57 Park Row, New York.

WOODWARD'S COUNTRY HOMES.—This popular and elegantly illustrated book has passed through three editions, and a fourth is now on the press, which we hope to have ready in a week or two. The demand is unabated; in fact, it increases as the work

becomes better known. It has taken its rank now among the very few successful books of the day, and supplies the want long felt of a guide to the construction of houses of moderate cost.

THE DELAWARE GRAPE.—The original painting for our plate of the Delaware Grape is now in the hands of the lithographer, who means to make a first-class picture of it—one suitable for the adornment of any room. We hope to have it ready for delivery early in February. Price, mailed free, THREE Dollars; but any subscriber who sends us two new names and five dollars, in addition to his own subscription, will have a copy sent him free of cost.

THIS VOLUME OF THE HORTICULTURIST will be fully illustrated. Architectural designs, and plans for laying out small tracts of land will be freely given, and, in accordance with many requests, these designs will contemplate only moderate expenditures. We also propose to illustrate fully all the newer fruits, flowers, etc., and shall be pleased to receive from our readers drawings or specimens for this purpose.

WE CALL THE ATTENTION of our readers to the advertisement of the **RAIRIE FARMER** and the Tilden Tomato. By some unaccountable oversight, this advertisement was omitted from our January number; but let not this error prevent any one of our readers from taking the **RAIRIE FARMER**. Send Two Dollars at once to Messrs. Emery & Co., Chicago, and get a wide-awake exponent of Western agriculture, published by gentlemen who show commendable energy in getting up a first-rate paper and letting the public know it. Every subscriber gets a paper of Tilden Tomato seed, out of which he can make money enough to pay for the paper.

STORVER RASPBERRY.—“Reuben” in the December number of **HORTICULTURIST**, asks information in regard to this raspberry. Fruit small and not of much value. It throws up an immense quantity of suckers, and is not worth the room it occupies.

Allen’s Red Prolific and Kirtland, has the same habit of suckering, but much more

prolific and larger fruit, similar in shape, color, and flavor, and are no doubt improved chance seedlings or Hybrids.

CHAS. DOWNING.

A WESTERN SUBSCRIBER asks how to prepare white-oak posts for vineyards to prevent decay. The best remedy is to char; but where that cannot readily be done, we advise to place in solution of copperas as indicated by the writer of “Our Method,” in Vol. 20, to which we refer him. A preparation of gas tar is sometimes used, but is not as cleanly as the other modes.

A REMARKABLE instance of the effect of frost in overcoming the circulation of the sap in trees and destroying their life, occurred in London during the spring succeeding the hard winter of the year 1794. The snow and ice collecting in the streets, so as to become very inconvenient, they were cleared, and many cartloads were placed in the vacant quarters of Moorfields. Several of these heaps of snow and frozen rubbish were piled around some of the elm-trees that grew there. At the return of spring, those of the trees that were not surrounded with the snow, expanded their leaves as usual, while the others being girt with a large frozen mass, continued quite bare; for the fact was, the absorbents in the lower part of the stem, and the earth in which the trees stood, were still exposed to a freezing cold. In some weeks, however, the snow was thawed, but the greater number of the trees were dead, and those few that did produce any leaves were sickly, and continued in a languishing state all summer, and then died.

SUCCESSFUL FRUIT RAISING.—Truman M. Smith, Esq., of Dayton’s Bluff, sends us some specimens of fruit raised in his orchard. He has devoted several years to the culture of fruit and vegetables, and has now one of the finest orchards and nurseries in this vicinity, containing a large number of trees and shrubs in bearing.

Mr. Smith is also experimenting with other varieties of fruit, and we have no doubt that he will succeed in cultivating a number of species of fruit that have not hitherto been raised here—such as peaches, pears, &c.

With grapes, Mr. Smith has also been very successful. He has quite a vineyard of hardy kinds, and raises a quantity of grapes every year. Two or three kinds which he has experimented with, have proved valuable and hardy, and must soon become popular. In all he has thirty-seven varieties.

He handed us on Saturday a specimen of raspberries, containing about a dozen ripe and partially ripe ones on a vine. To gather ripe raspberries on October 21, is rather a novelty in this country. They are of the "Belle de Fontenay" variety, and are very large and luscious.

Some rhubarb and tomatoes which he handed us, are particularly fine, and considering the season of the year, are a remarkable yield.

Mr. Smith's experiments in fruit and vegetable raising have been conducted at great expense to himself, but will result in great good to the community, and we hope he may be abundantly rewarded for his expenditures. If any of our citizens wish to see model gardens, conservatories, nurseries, vineyards, &c., they should call on Mr. Smith. He has a neat and well kept place, and will show it to visitors with pleasure.—*St. Paul Pioneer.*

THE 48TH ANNUAL MEETING of the Hampshire Franklin and Hampden Agricultural Society was held at Northampton, Mass., Jan. 3d, and MILO J. SMITH, was elected President in place of H. S. Porter of Halfacre, declined. Vice-Presidents Elzathan Graves, Williamsburgh; John W. Hubbard, Northampton; Rodney Smith, Hadley; Andrew T. Judd, South Hadley. A. P. Peck, Northampton, Secretary; Albert R. Parsons, Northampton, Treasurer; Os-

car Edwards, Northampton, Auditor. The Society is in a prosperous condition and looking towards a vigorous and green old age.

The article on Tomato Culture, page 391, of December *HORTICULTURIST*, should have been credited to the *American Agriculturist*, published by Orange Judd & Co., No. 41 Park Row, N. Y., at one dollar and fifty cents per annum. Whenever a really good thing is found floating about without credit, it will be safe nine times out of ten to credit it to the *Agriculturist*.

DENVER, COLORADO, Dec. 17, 1865.

GENTLEMEN:—I have concluded to put the price of one bushel of potatoes into papers and monthly's, for the family, so yours is included, the price of potatoes now being 20 cents per lb., or \$12 per bushel. Please direct to Denver, Box 366.

Yours respectfully, L. K. PEAK.

WILD COTTON OR WILD WEAVER.—My attention has recently been directed to the very silky and beautiful fibre of this plant which grows so abundantly in the waste places throughout Pennsylvania, and as it ripens in season, why could it not be turned to some practical use? A young lady, of Reading, Pennsylvania, gathered, spun and knit a pair of stockings, from the wild cotton plant. No doubt they were beautiful, as the fibre is apparently equal to the finest silk.

Have any of your readers tried what effect cultivation would have on the plant? It would, probably, greatly improve the staple. What would the cotton of commerce be without cultivation?

I send a small specimen herewith for your examination.

J. M. H.

We think a difficulty would be found in manufacturing thread or yarn from this plant from the shortness and want of strength of the staple. Have any readers had experience?

ISAAC PULLEN, Esq., of Hightstown, N. J., has furnished us with the following list of peaches which he considers unexceptionable for market culture :

Hale's Early,
Trioth's Early,
Large Early York (not the serrate.)
Crawford's Early,
Old Mixon Free,
Stump the World,
Crawford's Late,
Ward's Late,
Jaques Rare Ripe,
Smock Peach.

Mr. A. M. BURNS writes us as follows from Manhattan, Riley County, Kansas :

"This is believed to be the most westerly point, east of the Rocky Mountains, where the grape is yet grown. I have cultivated the Concord, Diana, Delaware, Clinton, Catawba and Isabella successfully, and since 1859 have had fruit; have never seen a diseased berry or a mildewed vine in nine years, which shows that this climate is especially adapted to vineyards.—Here, too, land is good and cheap, and homesteads may be had for the occupancy. I have many new varieties on trial, such as the Iona, Isabella, Allens' and Rogers' Hybrids, Hobb's new Seedlings, Yeddo, &c., and wish to test this climate for all and every new grape that has merit. Our success, thus far, induces us to believe that almost any grape will do well here. If your friends will send me any by mail, I will test them carefully and report on them in due time through the *HORTICULTURIST*. Ask them to send me priced and descriptive catalogues.

The State of Kansas has located the State Agricultural College at this place.

Mr. GEORGE N. STACK, of Long Branch, New Jersey, desires to inform his neighbor, Mr. S., through the *HORTICULTURIST*, that to induce fruitfulness in a barren orchard, which has been over stimulated by high

manuring, with pruning to match—causing exuberance of growth—he must—

1st. Stop manuring so heavily or plowing so deeply.

2d. Stop severe pruning, removing only weak and crowded branches, allowing the trees (standards) to take their natural form.

3d. Dig a trench eighteen inches deep around each tree, six or seven feet from the trunk, and cut off all the roots that can be cut with the spade.

SWEET is the hum of bees, dire is the song of gnats and mosquitos; gaudy is the clothing of the butterfly, noisome the contact of vermin; costly are the products of the silk-worm and the cochineal; ruinous the ravages of the weevil, the curculio, the army-worm and the locust. But in our latitude we have fewer destructive and annoying insects than are to be found in regions nearer the tropics. We have fewer entomological beauties and fewer entomological plagues, for which we ought to be thankful. It is true, however, that we have, after all, plenty of insects even here; but the extreme minuteness and unimaginable variety and transformations of these creatures forbid the enterprise by which ordinary students might become familiar with their classes and habits. When we have learned their forms, we cannot comprehend or even guess at their senses—their inner mode of life. The study of entomology is, therefore, not only complicated and perplexing, but, regarded as a science, unsatisfactory. For example, it is doubtful whether insects possess the faculty of hearing, or how many of the five senses they do possess. They appeal, it is true, to all our several senses, in turn, whether they can hear or not the maledictions we bestow upon them in return.

An intelligent bee-master and good gardener says that he "fired off a gun close to a hive containing a swarm of bees; they only stirred slightly; but shaking them disturbs them much more than any noises."

Their slight stirring might have been the result of the concussion of the air, rather than the noise of the report. If they do hear at all, their scale of audible sounds has been conjectured to lie far at the top of ours, and so to be a nullity for our ears from the highest to the lowest note which it contains.

The kind of sight that must be the result of looking out through a thousand microscopea, is difficult for us to realize; the language of the antennæ is more untranslatable than any cuneiform inscription. For bees, and a few others of their class, there will ever be a genuine fellow-feeling, as well as a selfish interest arising from considerations of profit; but the mob of creeping and flying insects will secure no hold on popular favor.

WHAT is Conchology, as seen in museums and cabinets, but a collection of husks and rinds of things that are dead and gone? We treasure the envelope, having lost the letter; the book is destroyed, and we preserve the binding.

Not one person in a hundred who decorates his apartment with shells, can tell whether the living creatures they once contained had eyes or no eyes, were fixed to the rock or drifted with the sea-weed, were purely herbiverous, or, by an insinuating but unamiable process, dieted on the vitals of other mollusks, their neighbors, and were, therefore, as we might say, *schismatous*. The Radiata, and the rest of their allied tribes, are still less inviting to the common run of men and women, since they puzzle and worry even philosophers and practised naturalists. We are told that Mr. Charles Darwin, one of the most celebrated and patient naturalists of the age, has been, for some time past, engaged upon the barnacles, and has well nigh been driven to despair by the slipperiness of their character.

But the study of Botany may be made easy and interesting to all who have any taste for self-culture. From garden, and

meadow, and wood, we may gather grass and flowers and leaves, which, being neatly preserved and classified, cannot fail to furnish interest and pleasure. The field of observation is illimitable; the number of specimens that may be gathered without going out of our way, or loss of time, is beyond reckoning, and the uses of all this knowledge, even incidentally acquired, will be invaluable.

KINGLAKE is the most brilliant, and probably the most accurate, sketcher of scenery and incident among modern travelers. His description of the gardens of Damascus, which seem to have remained unchanged from the olden years of Sacred History, is quite worthy of a place in our Table.

The Holy Damascus, this earthly paradise of the prophet, so fair to his eye that he dared not trust himself to tarry in her blissful shades—she is a city of hidden palaces, of copes, and gardens, and fountains, and bubbling streams. The juice of her life is the gushing and ice-cold torrent that tumbles from the snowy sides of Anti-Lebanon. Close along on the river's edge, through seven sweet miles of rustling boughs and deepest shade, the city spreads out her whole length: as a man falls flat, face forward on the brook, that he may drink and drink again, so Damascus, thirsting forever, lies down with her lips to the stream, and clings to its rushing waters.

Wild as the nightest woodland of a deserted home in England, but without its sweet sadness, is the sumptuous garden of Damascus. Forest trees, tall and stately enough, if you could see their lofty crests, yet lead a tusaling life of it below, with their branches struggling against strong numbers of wild bushes and wilful shrubs. The shade upon the earth is black as night. High, high above your head, and on every side all down to the ground, the thicket is hemmed in and choked up by the interlacing boughs that droop with the weight of roses, and load the slow air with their damask breath. The rose-trees which

saw are all of the kind we call *damask*; they grow to an immense height and size. There are no other flowers. Here and there there are patches of ground made clear from the cover, and these are either carelessly planted with some common and useful vegetable, or else are left free to the wayward ways of nature, and bear rank weeds, moist-looking and cool to your eyes, and freshening the sense with their earthy and bitter fragrance. There is a lane opened through the thicket, so broad in some places that you can pass along side by side—in some so narrow (the shrubs are forever encroaching) that you ought, if you can, go on first, and hold back the bough of the rose-tree. And through this wilderness there tumbles a loud rushing stream, which is halted at last in the lowest corner of the garden, and then tossed up in a fountain by the side of the simple alcove. This is all. Never for an instant will the people of Damascus attempt to separate the idea of bliss from these wild gardens and rushing waters.

AN INTERESTING companion-piece to the above fine picture is found in *Fortune's Wanderings in China*.

The gardens of the Mandarins, in the city of Ning-po are very pretty; they contain a choice selection of the ornamental trees and shrubs of China, and generally a considerable number of dwarf trees. Many of the latter are really curious examples of the patience and ingenuity of this people.—Some are only a few inches high, and yet seem hoary with age. Not only are they trained to represent old trees in miniature, but some are made to resemble the fashionable pagodas of the country, and others different kinds of animals, amongst which the deer seems to be the favorite. Junipers are generally chosen for the latter purpose, as they can be more readily bent into the desired form; the eyes and tongue are added afterwards, and the representation altogether is really good.

When I was travelling on the hills of Hong-kong, a few days after my first arri-

val, I met with a most curious dwarf *Lycopodium*, which I dug up and carried down to Messrs. Dent's garden. "Haiyah!" said the old compradore, and was in rapturous delight. All the coolies and servants gathered around the basket to admire the curious little plant. I had not seen them evince so much gratification since I showed them the Old Man Cactus (*Cereus Senilis*) which I took out from England, and presented to a Chinese nurseryman at Canton. On asking them why they prized the *Lycopodium* so much, they replied, in Canton, English—"Oh, he too muchia handsome; he grow only a leete and a leete every year; and suppose he be one hundred year onla, he only so high," holding up their hands an inch or two higher than the plant. This little plant is really very pretty, and often naturally takes the form of a dwarf tree in miniature, which is doubtless the reason of its being such a favorite with the Chinese.

THE AUTHOR of *Barren Honor*, says:—Misanthropy is the worst of all philosophy—Epicurean or Stoic, seductive or repellent; it will fail just at the critical time of trial, and its latest pang will be the sharpest of all. The tough, self-reliant character that meets misfortune savagely and defiantly, like a personal foe, holds its own will for a while; but if there be not faith enough to teach humble, hopeful endurance, I think it fares best in the end with the hearts that are only—broken.

There was no misanthropy, nor mere self-reliance and pride, in the patience and silent dignity exhibited by *Marie Antoinette* during her long trial of bitter suffering. She possessed a faith—a sense of religion—that never deserted her, whatever her weaknesses of character and inconsistencies. And how mournful, beyond words, was her fate. Her sufferings date long before she became a captive, and was menaced with ignominious death. Almost from her first arrival in France she had been exposed to misrepresentation and calumny. Young and beautiful, and a queen as well as a woman, she

had long been the butt at which "the most polite and chivalrous nation in Europe," were leveled. We are told that when she walked in the Gardens of St. Cloud, the very children followed and insulted her. Allusions against her were eagerly seized in every theatre, and the lieutenant of police had to beg that she would no longer come to Paris, as he could not answer for the consequences of her presence. Every class seemed bent on ascribing to her the misery of the nation. The nobles calumniated her; the people called her Madame Deficit. She bore all in silence; but every insult, every proof of hatred she received, sank deeply into her heart. Her beauty, once so fresh and dazzling, gradually faded away; her cheek became pale and thin; her eyes grew dim with weeping, and with nights of anxious vigils. The sunny smile, which lent so great a charm to her expressive countenance, visited it no more. If she saw not yet the terrible future, she was haunted by the shadow of dark foreboding thoughts, and a secret terror filled her breast whenever she asked herself what fate awaited her, her husband, and her children. Through every fear and trial she maintained, however, a bearing more composed, more truly royal, than that which had marked the days of her splendid prosperity.

She was doomed to drink the cup of sorrow to the dregs, and death itself was grudged her till all she held dearest had been murdered and tortured before her eyes.

"Beyond the infinite and boundless reach
Of mercy"

are the perpetrators of those crimes by which she and hers suffered so bitterly. Most of them, indeed, paid the penalties of their crimes here in the flesh, but the deathless reproach of the nation that endured them has not been expiated. Years of revolution and blood have not sufficed to wipe it off, and it may be that a deeper retribution is yet in store.

BOOKS, &c., RECEIVED.

TRANSACTIONS OF THE ILLINOIS STATE HORTICULTURAL SOCIETY for 1864, at its Ninth Annual Meeting, with Constitution, Act of Incorporation, Horticultural Laws, etc.

CATALOGUE of Officers and Students of the State Agricultural College of Michigan, 1865.

CATALOGUE of Plants, with full description, &c., of the Kittatinny Blackberry, E. Williams, Mont Clair, N. J.

DESCRIPTIVE CATALOGUE of Roses, Fruit and Ornamental Trees, Flowering Shrubs, Vines; Green-house, Hardy Plants, &c., cultivated and for sale by G. Marc, Astoria, N. Y.

DESCRIPTIVE CATALOGUE of Apple Trees raised and for sale by D. L. Adair, at the Sandy Side Nurseries, near Hawesville, Kentucky.

P. & E. TRANSON Bros.' NURSERIES, Orleans, France. Nursery Trade List for Autumn of 1865 and 1866. Messrs. Knauth Nachod & Kuhne, 28 Broad-street, N. Y., agents.

CATALOGUE of exclusively Hardy Plants and Nursery Stock, for sale at the Nursery of Eugene A. Baumann, Milton Nursery, Rahway, N. J.

WHOLESALE CATALOGUE of Fruit, Evergreen and Ornamental Trees, Shrubs, Stocks, Roses, &c., for the Autumn of 1865 and Spring of 1866, offered for sale by John Saul, Washington, D. C.

CIRCULAR, REPORT on Grapes and Grape Growing, by J. Paul Sacksteder, Louisville, Kentucky.

LIST of Grape Vines, Fruit Trees, &c., for sale by E. Miles, Sag Harbor, Suffolk Co., L. I., New York.



BEST FARMING LANDS in the WORLD FOR SALE BY THE ILLINOIS CENTRAL RAILROAD CO., In Tracts to suit Purchasers, AT LOW PRICES.

THE ILLINOIS CENTRAL RAILROAD COMPANY HAVE FOR SALE,
800,000 ACRES of the best Farming Lands in the Country.

The road extends from Dunleith, in the north-western part of the State, to Cairo, in the extreme southern part, with a branch from Centralia, one hundred and thirteen miles north of Cairo, to Chicago, on the shore of Lake Michigan—altogether a length of 704 miles—and the land which is offered for sale is situated upon either side of the track, in no instance at a greater distance than fifteen miles.

State of Illinois.

The rapid development of Illinois, its steady increase in population and wealth, and its capacity to produce cheap food, are matters for wonder and admiration. The United States Commissioner of Agriculture estimates the amounts of the principal crops of 1864, for the whole country, as follows: Indian corn, 1,30,681,403 bushels; wheat, 160,695,823 bushels; oats, 170,090,064 bushels; of which the farms of Illinois yielded 138,356,135 bushels of Indian corn; 23,371,173 bushels of wheat; and 24,73,751 bushels of oats—in reality more than one-fourth of the corn, more than one-fifth of the wheat, and almost one-seventh of the oats produced in all the United States.

Grain—Stock Raising.

Pre-eminently the first in the list of grain-exporting States, Illinois is also the great cattle State of the Union. Its fertile prairies are well adapted by nature to the raising of cattle, sheep, horses and mules; and in the important interest of pork packing, it is far in advance of every other State. The seeding of these prairie lands to tame grasses for pasture or hay, offers to farmers with capital the most profitable results. The hay crop of Illinois in 1864 is estimated at 2,166,725 tons, which is more than half a million tons larger than the crop of any other State, excepting only New York.

Inducements to Settlers.

The attention of persons, whose limited means forbid the purchase of a homestead in the older States, is particularly invited to these lands. Within ten years the Illinois Central Railroad Company has sold 1,400,000 acres, to more than 20,000 actual settlers; and during the last year 264,422 acres—a larger aggregate of sales than in any one year since the opening of the road. The farms are sold in tracts of forty or eighty acres, suited to the settler with limited capital, or in larger tracts, as may be required by the capitalist and stock raiser. The soil is of unsurpassed fertility; the climate is healthy; taxes are low; churches and schools are becoming abundant throughout the length and breadth of the State; and communication with all the great markets is made easy through railroads, canals and rivers.

PRICES AND TERMS OF PAYMENT.

The price of lands varies from \$9 to \$15 and upwards per acre, and they are sold on short credit, or for cash. A deduction of ten per cent. from the short credit price is made to those who buy for cash.

E X A M P L E :

Forty acres at \$10 per acre, on credit; the principal one-quarter cash down—balance one, two and three years, at six per cent. interest, in advance, each year.

	INTEREST.	PRINCIPAL.		INTEREST.	PRINCIPAL.
One Payment.....	\$12 00	\$100 00	Payment in two years,	\$4 00	100 00
Payment in one year,.....	12 00	100 00	" three years,	100 00	

The Same Land may be Purchased for \$150 Cash.

Full information on all points, together with maps, showing the exact location of lands, will be furnished on application, in person or by letter.

LAND COMMISSIONER, Illinois Central R. R. Co., Chicago, Illinois.

The New Bedding Plants of 1866.

New Hardy White Monthly Pink, 75 cents, \$7.50 per dozen. See description in 12 lines.

Lychine Salmon, 75 cents, \$7.50 per dozen.

Antirrhinum—Silver Bell, 75 cents, \$7.50 per dozen.

See description in 12 lines.

Celosia Vermiculata, 75 cents, \$7.50 per dozen.

See description in 12 lines.

Ice-cream Herbs, 75 cents, \$7.50 per dozen.

See description in 12 lines.

Salmon Schizanthus variegatum, 75 cents, \$7.50 per dozen.

See description in 12 lines.

White Tricolor, Double-flowered, 75 cents, \$7.50 per dozen.

See description in 12 lines.

5 New Show & Fancy Dahlias, 75 cents, \$7.50 per dozen.

See description in 12 lines.

1 New Bouquet Dahlias, 75 cents, \$7.50 per dozen.

See description in 12 lines.

10 New Verbenas, 75 cents, \$7.50 per dozen.

See description in 12 lines.

10 Best Varieties Monthly Carnations, 75 cents, \$7.50 per dozen.

See description in 12 lines.

10 Best Varieties Zonal Geraniums, 75 cents, \$7.50 per dozen.

See description in 12 lines.

12 New Hybrid Perpetual Geraniums, 75 cents, \$7.50 per dozen.

See description in 12 lines.

50 New Fuchsias, double and single, 75 cents, \$7.50 per dozen.

See description in 12 lines.

21 New Petunias, double and single, 75 cents, \$7.50 per dozen.

See description in 12 lines.

12 New Phloxes, 75 cents, \$7.50 per dozen.

See description in 12 lines.

12 New Fancy Antirrhinum, 75 cents, \$7.50 per dozen.

See description in 12 lines.

100 Varieties Roses, 75 cents, \$7.50 per dozen, \$10 per box.

See description in 12 lines.

All of the above named named bedding plants will be sent in boxes, and

will be from 10 to 12 inches in the height varieties, and 6 to 8 inches in under plants. Vines larger than 10 inches in box, packing in three sections of 10 feet each, each section packed in paper, and more boxes required. The boxes will contain, for advertising, instruction to the persons receiving, to protect them.

WILLIAM PERRY & CO.,
BRIDGEPORT, CONNECTICUT.

OFFICE A LARGE STOCK OF
SUPERIOR VINES AT LOW RATES.

EXHIBITED THE FOLLOWING VARIETIES:

Concord, Delaware, Iowa, Isabella, Adirondack, Rogers' Hybrid, Green

Hybrid, Diana, Hartford, Prolific, Hebrew, Creeping,

Martiniawney, Lydia, Eves' Seedling, &c.

PETER HENDERSON, South Bergen, N.J.

Office in New York, 67 Nassau Street.

Our vines are grown in bushes, with PLenty of Room, top and bottom, of root and cane. Vines grown by our method are much superior to all others.

Notice a few of the many letters we receive, speaking in the highest terms of our

GARDEN, Keene, N.H., April 17, 1865.

Messrs. Wm. Perry & Son, Gentlemen.—The

bushes of Vines you sent me, came to hand on the

13th inst. On opening it, I found the contents

in fine order. Bump and moist, the Concord

exceeded my most sanguine expectations. I

never saw so many and such long roots of

pearling vines before. The members of the

Club appeared to be pleased with their vines.

Yours truly,

S. S. WHITE.

SHIRLEYBROOK, Pa., March 21, 1865.

Messrs. Wm. Perry & Son, Gentlemen.—The

vines came to hand all safe, and, without a

doubt, they are the strongest and healthiest

vines I ever purchased, and I have bought of

quite a number of nurseries, but none have

compared with your vines. I am very sorry

I did not purchase of you two years ago this

spring. Yours truly,

W.M. A. BRAKER.

TRENTON, N.J., April 8, 1865.

Messrs. Perry & Son, Dear Friends—

Please find enclosed New York box 17,

containing 10 young bell vine plants, taken

to hand in due time. The vines are fine

and I am well pleased with them.

They must be fine for the grape. I thought

to raise the best plants to my garden, and

other places, but, owing to the fact that

ever seen this would compare favorably with

them. Your vines are fit for every

purpose. Yours sincerely,

WM. PITTMAN.

IOWA CITY, Iowa, July 20, 1865.

Messrs. Wm. Perry & Son, Gentlemen.—Your

Price List for fall of 1865 is as follows:

Those you send me last spring were very fine.

Some are bearing this summer. I send you

list, 50 Iowa, 25 Lippelia, 25 Adonis, 25

Vines.

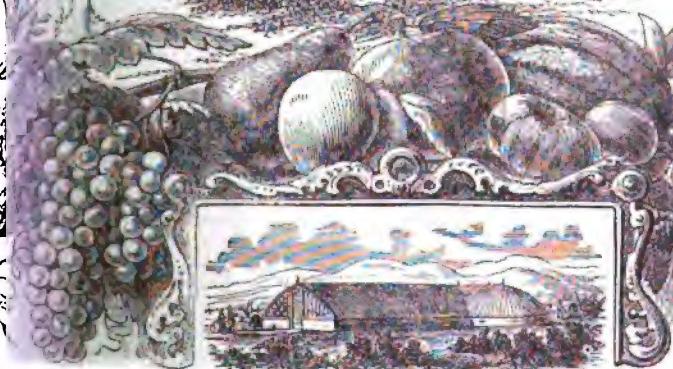
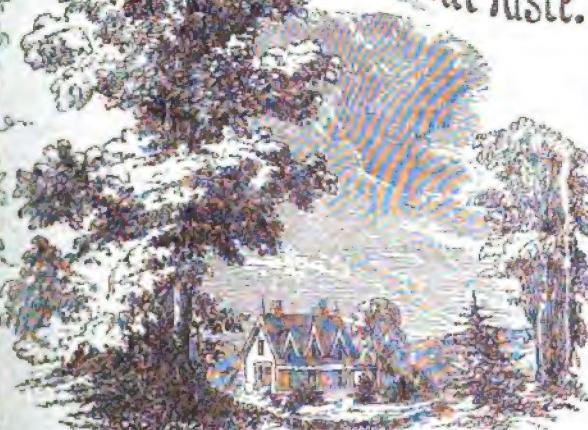
Yours truly,

W.M. PITTMAN.

MARCH, 1866.

ESTABLISHED IN 1846.

THE
HORTICULTURIST
Journal of Rural Art
and Rural Taste.



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VOL. 21, 1866.

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THE
HORTICULTURIST.

VOL. XXI.....MARCH, 1866..... NO. CCXXXVII.

A DISCOURSE OF WINTER.

SPRING is here, according to the calendar, ut not so in actual experience; and therefore, while winter still broods over all northern climes, it may not be unsuitable to consider some of its characteristics, and perchance to gather up a few of its lessons. He who taught His followers from the summer lilies, doubtless also instructed them on the aspects of nature in winter.

To the eyes of most people, winter is a season of desolation and gloom. The flowers are dead; the bees and other insects no longer hum; the song-birds have left the sky; the leaves have fallen from the trees, and are whirled, withered and dead, upon the blast. The streams are locked in ice; the snow, like a heavy shroud, is spread over all the earth. Vegetable growth has ceased, and even vegetable life is dormant, not wholly extinct. The sun rides low in the heavens, and, with its cold and slanting beams, gives but a brief day.

But this is not the whole truth: Winter has other and more cheerful aspects. There is life amid this seeming decay and death.

Vegetation absolutely requires a period of rest, and winter is its opportunity. The bees are napping in their cosy cells; the birds are not destroyed, but are gone on pleasure excursions southward, looking after their possessions and friends around the Gulf. The streams and lakes are frozen—are they? Well, they make fine skating-parks now, and are having an eye to the creams of next August. What could civilized man do without their sparkling crystals to cool the summer heats? It would be a heavy loss to northern commerce, if its cargoes of ice were dissolved. The leaves have fallen—have they? Well, they were ripe, and of no further use to the branches, and by their fall they will now help to fertilize the ground and to promote the trees' growth in succeeding years.

Frost, which in some respects is destructive, is also preservative. It checks the too rapid decomposition of vegetable and animal matters, and by purifying the air prevents disease and promotes bodily health and vigor. Who does not know, by expe-

rience, that the return of the cold season, after the debilitating heats of summer, produces an exhilaration of spirits and gives a new accession of physical strength? A friend of the writer, who spent several years in Bogota, relates that, while at first the perpetual summer was a perpetual delight, afterwards it became monotonous, tiresome, and weakening to body and mind, and that he often longed for the refreshing winds and frosts of the north. If the inhabitants of northern countries possess any superiority over those of southern lands, it is owing largely to the influence of their climate. It is in cold countries that home is most tenderly loved, and fireside virtues most vigorously flourish.

"Oh Winter, ruler of th' inverted year,
Thy scattered hair with aslet like ashes filled,
Thy breath congealed upon thy lips, thy cheeks
Fringed with a board mists wh to with other snows;
Than t...ose of aye, thy orchard wrappel in clouds,
A leafless branch thy sceptre, and thy thron
A sliding car indebted to no wheels,
But urged by storms along its slippery way,
I love thee, all unlovely as thou seem'st,
And dreaded as thou art! Thou hold'st the sun
A pris...er in the yet undawn'g east,
Shortening his journey 'twixt morn and noon,
And hurrying him, impatient of his stay,
Down to the cosy West; but kindly still
Com...enting his loss with ad led hou's
Of social conver... and instructive so,
An i...athering at short notice, in one group
The family dispersed, and fixing thought
Not less dispers'd by daylight and its care.
I crown thee king; I int... into d...ights,
Fre...id... enjoyments, home-born happ...ness,
And all the comfort that the low'... roof
Of undisturbed retirement, and the hours
Of long, uninterrupted evening, know."

One of the most marked features of winter is its snow. This interferes with some of our pleasures and profitable labors. The tourist and landscape-painter will seldom flounder through snow-banks in quest of fine scenery. The botanist—where are the flowers he loved so well? The geologist, entomologist, and indeed the student in almost every department of natural science, finds his sphere of observation reduced to narrow bounds. The gardener must hang up his shovel and hoe, and the farmer can

no longer sow and reap and gather in barns.

Yet there is a bright side to this picture. The snows which block up our roads and fields bring with them a partial compensation for the discomforts they produce. An old proverb that "snow is the poor man's manure" is believed to have its basis in scientific fact. Chemical analysis finds a larger per centage of ammonia in snow than in rain. This at least is true, that snow is a powerful absorbent, purifying the air and returning the impurities as fertilizers to the soil. Melt in a clean vessel a mass of snow which has lain a short time on the ground, and the taste will detect foreign elements in the water. This is most apparent in the neighborhood of large towns where the atmosphere is more or less impure. The harshness and dryness produced in the mouth by drinking snow-water, and the unpleasant effects on the skin by washing in it, are ascribed to the impurities it contains. The disease called *goit*, prevailing in Alpine regions, is also attributed by some to the use of snow-water.

A certain writer illustrates the absorptive power of snow thus: "Take a lump of *sod* (crust answers well,) of three or four inches in length, and hold it in the flame of a lamp; not a drop of water will fall on the snow, but the water, as fast as formed, will penetrate or be drawn up into the snow by capillary attraction. It is by virtue of this power that it purifies the atmosphere by absorbing and retaining its noxious and noisome gases and odors." Snow also absorbs exhalations from the earth, and turns their fertilizing properties to the soil. Hence, marshes and stagnant pools become inodorous in winter, and the unwholesome effluvia of vegetable matter everywhere decaying is retained, and with the melting of the snow in spring is given back to the earth. So much as this, at least, we believe, that "the poor man's manure" is as efficacious as some of the patent fertilizers of the day; and it is a great deal cheaper. Moreover, we are told that snow actually

nourishes a species of animal life. Dissolve a handful of snow in a glass of water entirely free from *infusoria*, and you will soon discover a multitude of animalcules moving about in it full of life. Every one has read of the famous "red snow" of the Arctic regions, which is only another exhibition of this microscopic race.

Snow helps the springs and mill streams in winter. Were the ground naked from fall to spring, and frozen meanwhile several feet deep, the springs would dry up, and water-wheels of every description would stand idle. As it is, however, the snow prevents the frost from penetrating to a great depth—especially among the wooded hills, which are the fountain-heads of springs and streams—and by their gradual melting keep up a supply of water for man and beast.

Not the least important use of snow is the protection it affords to tender vegetation. Even in northern latitudes, there is a multitude of tender and half tender indigenous plants which require more or less protection in winter. Nature provides for them most wisely. She hangs over them the branches of neighboring trees and bushes, gathers about their roots a many-folded blanket of dry leaves, and last of all spreads over them a fleecy mantle of snow. With this covering, they pass through the coldest winter safely; when if transplanted to exposed situations they would certainly perish. But besides, our gardens and fields are stocked with plants and grains which are natives of warmer climates, and need protection still more. Sweep off the snow from our wheat fields and meadows, and at least a portion of the crops would be winter-killed. Some of the choicest herbaceous plants in our gardens, brought from milder regions, will pass unharmed through the severest winters, if only they are covered with snow. So of many tender shrubs. With their branches fastened to the ground, they hibernate in Canada as well as at the

tropics. The buds of peach trees are often killed in severe winters, while if a few branches happen to get bent under the snow, they produce a splendid show of fruit. Scientific travelers in Siberia have recorded instances in which, with the temperature of the air above the snow at 72° below zero, that beneath was 29° above zero, showing a difference of 100°. Dr. Kane, in his "Arctic Expedition," mentions finding underneath the snow, at latitude 78°, "the andromeda in full flower, and saxifrages and carices green under the dried tufts of last year." * * * "Here, too, the silene and cerathrium, as well as the characteristic flower-growths of later summer, the poppy and sorrel, were already recognizable." * * * "Few of us at home," he continues, "can realize the protecting value of this warm coverlet of snow. No eider-down in the cradle of an infant is tucked in more kindly than the sleeping dress of winter about this feeble flower-life."

When the snow falls early in winter and remains until spring, the ground is seldom frozen at all; and if frozen a few inches deep before the snow falls, the heat of the subsoil thaws out the frost above it, and the superincumbent snow prevents another freezing, so that in early spring the ground is soft and ready for the plow and spade.

Did the space allotted us in these columns allow, we might speak of the opportunity which winter affords the farmer and his household for mental and social culture; of the beauty of the snowy landscape when lighted up by the sun; of the brilliancy of the winter sunsets; the peculiar depth and purity of its skies, and the lustre of its stars; of the pleasure of noting the first indications of approaching spring, and their steady increase until "the time of the singing of birds is come, and the voice of the turtle is heard in the land;" but here we must stay our pen.

A. D. G.

DESIGN FOR COUNTRY HOUSE OR PARSONAGE.

BY REV. P. D. OAKLEY, JAMAICA, L. I.

THE desire to produce pleasing effects in the structure of country houses has much increased the past few years. The gratifying evidence of this is forced upon our attention on every line of travel. Every one who contributes to this taste is so far a benefactor to his kind. It has this plea for universal adoption, that while it violates no principle of utility, it elevates mentally and morally only by the exercise of correct judgment without expense. I speak of it in its simple, and therefore purer forms of cottage building.

It is thought that the plan here submitted will command itself to the taste of those who, having a moderate income—and such constitute the bulk of society—and who, having no money to lavish upon merely useless show, would have enough variety in style, solid embellishments, convenience of arrangement, rooms of suitable size and number—affording sufficient retirement and accommodation as shall combine to produce a pleasing impression, externally and internally, upon which the eye of the stranger is welcome to rest, and make the happy

FIG. 28.—*Perspective.*

and contented family feel that they have a home, the endeared remembrances of which will never leave them till a home on earth is needed no more.

Some of these effects, we think, may be realized in this plan. Enter the gate, and by a neatly-trimmed winding-path step upon the veranda and look for yourself. It is situated on a village lot, say 65 feet front and 200 deep. It is not built large in front, so that space may intervene on either side for shrubbery and trees to secure seclusion and keep out intrusive eyes

of neighbors. Yet, in the dining-room a bay window commands a street view. It fronts the east, and hence the rooms used have a southern aspect. The veranda itself is worthy of a passing notice, as it is ample, compared with the size of the house, and its form in keeping with the bay windows that diversify and give character to the exterior. I would not make the path to the veranda direct in front of it, at right angles with the street, but from a gate near the southern corner of the front lot by a gentle serpentine line, and thus

leave the space of the front yard opposite the parlor window unobstructed, for the exhibition of taste in cultivating some of the smaller flowers and shrubbery, which, with a closely-shaven grass-plat, as the groundwork, never fails to awaken a sense of pleasure.

But the entry-door is open—(it opens readily to its friends). Look in! You

would have the hall go all the way back? Well, that is the old-fashioned way, but it has not the beauty of utility to recommend it. There is no need of it, and the open seams of the "back door" only made sluices for Boreas of the north storm to whistle his ghostly stories through of dark nights, as it used to seem to us in our childhood. Besides making a warmer house, we have

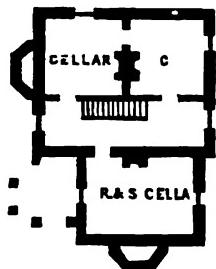


FIG. 29.—Cellar.

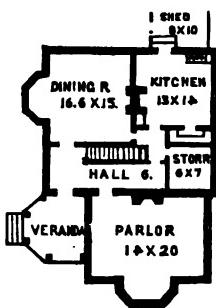


FIG. 30.—1st Floor.

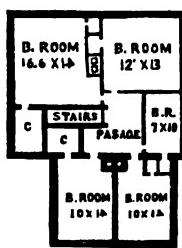
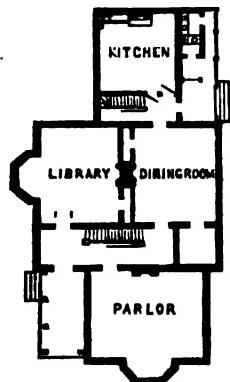


FIG. 31.—2d Floor.

made better use of that space, as you shall see when we get to it; and economy in fuel and space are two important items since the strike in the coal regions of Pennsylvania and the high price of material.

FIG. 32.—1st Floor differently arranged.
(not referred to in description.)

But in the meanwhile, step a moment into the parlor. It is not overlarge, but cozy, well lighted, well ventilated, and sufficiently large enough for ordinary families, its marble-manteled fire-place offsetting its bay

window which enlarges the room, and gives to it an air of refinement, its north and south windows equalizing each other, the one shielded from the rays of the sun by opening under the shade of the veranda, while in the space on the right of the fireplace, is just the place for the piano. But cross into the dining or sitting-room, and observe, in passing, that its door opens right opposite the front door, so that when the dog star is in the ascendancy and air is desired, you can sit with both doors opened, having a pleasant front view unexposed. This room is of proper capacity, has a good china closet, a plain marble mantle, an end window commanding the garden, and a bay window giving a pleasing effect to the whole, and raising the whole above the monotonous style of mediocrity. As this bay window is quite roomy, 8 feet in the clear, and as it is supposed to face the south, in winter time it would make quite a pretty conservatory for house plants, which, if properly cared for, contribute much to the cultivation of a correct taste. The enjoyment of life consists not so much

in great things as in extracting items of pleasure from little things. The cultivation of a single house plant—the architectural order of a room—the proper disposition of furniture—never go without their proportionable reward.

From this room, access to the kitchen is easy. That kitchen is an important place; it wants good light, a good fire-place, a large closet, a cistern pump, and waste-pipe, easy access to the yard and cellar, and it has them all. A short passage-way leads from these rooms to the cellar steps under the stairway, and to the main hall. Also from this passage-way a door opens into a small chamber, which I have designated as a store-room. This is a useful apartment, and while it wants to be out of the way, it needs to be near the kitchen and sitting-room. This room we have stolen from the hall. Our Biddies are not all above suspicion; and where they have so many cousins, all "dacent people sure," keeping house, sugars and teas and soap have the faculty of disappearing with marvelous alacrity. The good housewife loves to have the key of one door, where her household treasures may be safely stored, where she may be the almoner of her own bounty, without the aid of Miss Culinary Sly, through whom she may be supporting two or three families of the faithful, "unbeknownst" to herself. Or if Biddy is honest, and this room is not wanted for this purpose, it might, upon a pinch, be used for her sleeping-room; or if the proprietor wanted a little office to keep his books, papers &c., here, separated from other

apartments, is the place. I hope you don't smoke; but if you are guilty of that much-condemned practice, here is just the place for you and your friend to chat, and put your smoke out of the north window, without intruding the aroma of the filthy weed into any other part of the house. If, as Downing says, the poet Cowley confessed to a love for little things, here in this back hall little room, he might indulge his diminutive poetic idea to his satisfaction.

Let us go up stairs. Everything here speaks plainly for itself, so I will not detain you. The rooms are quite large, all have closets, and can be heated, except the small hall chamber, by stoves. Stove-pipe holes are in the chimneys, and swinging sashes over the doors to give ventilation. The chimneys are inside the building, so that all heat is saved. A clothes' room, which might be made a bath room, opens into the large chamber adjoining. The walls are filled in with brick. The roof projects, and the gables have large boards of stout plank. It is thought that in the external appearance of this house, and the order of the rooms, there are advantages pleasing to a good taste and conducing to the comforts of every-day home life.

This house, as it has two fronts, would be a very good plan for a corner house.

I omitted to say in the proper place, that, placing the closet in the front hall up stairs in the chamber, there would be room for a stairs, over the other stairs, into the attic-story, where there is space for three pleasant bed-rooms.

PEACH TREES IN POTS.

BY GERALD HOWATT.

Growing Peaches, Nectarines, Apricots and other stone fruit has not attained the attention and care that they ought to have. I mean the growing of them in pots; the simplicity of it is not generally understood; they require no more attention than any other ordinary stove or greenhouse plant.

Pot culture is carried in Europe to a very great extent, and I must certainly say that our facilities on this continent are far ahead of Europe, the principal feature of which is our fine clear and hot weather. As the great desideratum in growing peaches, nectarines &c., is to get our fruiting wood well ripened

When this point is attained, you can easily master the other difficulties with a little attention. The following is my system of growing and treatment from the time of receiving from the nursery to their fruiting. In selecting soil, I take a good strong loam one spade deep, leaving the grass on. I usually get this from the side of the road or along an old fence. If it can be got in the fall, and thrown in a heap all winter, so much the better; but my usual way is to take it direct from the fences to the potting shed and use it. I have tried it both ways, letting it be six months, and turning it right in and using it, and never noticed a particle of difference in the growth or fruit. If it is a stiff loam I mix it with charcoal dust, enough to make it free. I allow one quart of bone dust, the coarser the better; this keeps the soil porous, and is, in my practice, the best stimulant for those fruits. I give my plants the first year, three shifts, two in growing pots, and the third into the fruiting pot. A quart of bone dust is divided into three parts; at the first potting put one part, the second potting the next part, and the third potting the balance. I use no manure in my potting. The tree on arriving from the nursery will look like this

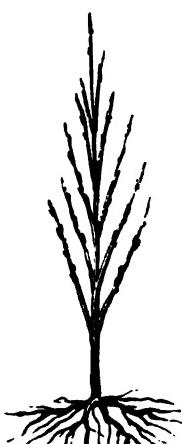


FIG. 33.—Tree as received from Nursery.

I then cut them down to ten or twelve

inches above the roots, looking like this—



FIG. 34.—Tree Pruned for Potting.

pruning the roots well, only leaving enough fibres to start the growing. The plants that I use are only one year old from the bud maiden trees. My first pot is two gallons; that is, eleven inches deep and ten diameter. In potting I keep the neck of the tree over ground; that is, leave your roots for about three inches thus



FIG. 35.—Tree in Pot.

on the surface of your soil. My reason for adopting this system is that the borers can be more easily detected if, unfortunately, they should show themselves. At your first two pottings do not let your earth come to the top of your pot. Keep it one inch below this to hold the water; in your third shift or fruiting pot, keep the earth two inches below the top of your pot; this is to give room for mulching with manure. Now the time for potting must altogether depend on your facilities for starting the trees. If you have pits to keep them in until the middle of May, at least until settled weather, I should advise the first potting to be done in March; this gives a fine long season for growth if that is the case. After potting, water with a rose just sufficient to settle the earth around them, and afterwards very sparingly until they commence to break (grow). I will state one particular item here, that is your drainage. Put one large broken shred on the hole, the hollow down, which leaves a space between the bottom of your pot and

your shred ; then other pieces around that, and cover the whole bottom of the pot ; when finished let it look like a saucer turned upside down, high in the middle and falling to the sides. My fruiting pots I have the holes cut with a cold chisel three inches by two. When you pot first do not plunge them, nor until they have made about four inches of growth. This is obvious, as you will bear in mind that there are but few roots to start with, and the weather being chilly, you want the heat on your pots (sun), to start the growth of the roots. After a little the new earth will cleave from the side of the pot ; let that at all times be rubbed around with the finger, for if watered without doing this, the water will all run between the ball and the side of the pot, leaving the heart of the plant perfectly dry. If the water should lie on the top of your pot, then there is something wrong in the potting or drainage ; if so, turn the plant out and examine it, and rest assured you will find something wrong. I should have mentioned, in all the pottings, gather the lumps and grass, and place them on top of open shreds at the bottom of pot ; then fine earth around your roots, the best as it comes. In all the shifting look out for worms ; they are easily discovered by their holes. I generally sprinkle quick lime on top of the pot (on the earth), which draws them out. That's the foundation. When the plants have made shoots six inches in length, select the four strongest for your permanent tree, or branches, and cut off the stem to the upper branch, thus :



FIG. 36.—*Tree at First Pinching.*

By this system you get more fruit, and

your tree looks better, and you get more trees into a given space, which is a great object when the present price of glass and tradesmen's wages are taken into consideration ; and I do not see the beauty of, or an umbrella top. When the shoots are from twelve to eighteen inches in length, I stop them, that is, I pinch the top off to make them throw out fruiting wood ; when five and six inches long I again stop them, and so on all through the season : when the wood is too thick, and likely to crowd the middle, remove those shoots that are growing to the middle, and remove all water shoots, no matter on what part of the tree they are, as they are useless, those shoots are not much thicker generally than a straw, and runs from the branch about 3 or 4 inches without showing an eye of either fruit or wood. In the middle of May plunge your pots, that is, insert them in the ground up to the rim and from three to four feet apart. From the first starting of your potting, you should syringe your plants every morning with a good force pump, and do not be afraid to use it strong. This makes your plants break well. After the 1st of June, syringe them twice a day, morning and evening. If you have not a barrel syringe, use the next best thing, a hand one, and in syringing be careful and apply the water to the bottom of the leaves as it is there where rests our great enemy, the red spider ; they are easily detected, by turning over the leaves you will see them. They look to the naked eye as if the leaf were dusted with red pepper, but a practiced eye can detect them at a glance at the surface of the leaf without examining it ; the leaf that has them on will look of a dirty white appearance. Beware of them, for if they get on your plants, all your trouble is gone for nothing. Syringe as directed and you can tell them do their best. About the first of June your plants will be in a condition to receive liquid manure. In applying this you must use a good deal of judgment. If the

plant is weak, give it no stimulant. As a general thing, let it be very weak. When I can get liquid from the barn-yard, I prefer it. The first year I use it half-and-half; that is, half water and half liquid. If I cannot get that, I sink two hogsheads in the ground, to within a foot of the top; one I keep for clean water, for syringing, watering and diluting my liquid manure. Into the other I put one peck of Peruvian guano; fill up with water; stir well up until dissolved. When used, add one half clean water to this half. In watering stove, greenhouse or other plants, with liquid manure, never apply it when your plants are dry. If you do it will kill them. My plan is to water with clear water in the evening, and the liquid in the morning. By adopting this, no risk is run in any way. In June, water your Peaches, Nectarines and Apricots, if in good health, twice a week with this liquid; July, and up to middle of August, three times a week; after that, give them no liquid, as you must now prepare to ripen and harden your wood. If you have attended to the stopping and displacing of all superfluous wood, your plants will by this time have made a fine appearance. My second shifting, I should have said, would be about the 1st of June, into four gallon pots that are thirteen inches deep and twelve in diameter. For this you must use your own judgment. You will see the roots protruding from the hole in the bottom; then take them out of the pot, and if the roots are all around the ball, repot them; be sure, in potting, to leave no spaces between the ball and the pot; in potting, use a flat stick, two inches wide, and bevelled at the point, so that it will not, if it should come in contact with the roots, cut or bruise them, rounding or half-rounding it for the breadth of a hand from the top. In using it, shove it backwards and forwards, so that you make your potting compact, and do not stamp your pot up and down on the potting-bench to break off the fibres, like a paver with his mallet on

stones. My last shift I do from the beginning to the middle of August into my fruiting pots or boxes. If pots, they should be six gallons, well drained, and coarse stuff at bottom. I like to have my fruiting plants pot-bound, that is, the roots grown to the outside of the ball. As the after-nourishment of the trees and fruit, I depend on liquid manures and manure mulching. Care must be taken not to let the trees, during the summer, become dry, that is, hard dry, in very warm weather; and while they are making rapid growth, they must be watered perhaps twice a day, and when watered at this stage, let it be done copiously, enough to saturate the whole mass of earth. The drainage will carry off the superfluous water. You can easily detect when they are not properly watered by knocking on the outside of the pot



FIG. 37.—*Tree at end of First Year.*

with your knuckles; if not properly watered, the pots will sound as if they were empty. On or about the first of October, I remove my trees to the viney to ripen and harden their wood. This must be well attended to, for if the wood is not ripened, it will shrivel and you get no fruit. When they are in the viney, water them about twice a week in October, as you want no growth; November, about once a week. If the foregoing instructions be carried out, your trees will now be from six to eight feet high, and from four to six feet through

—not bad, you will say, for one season's growth in pots; nevertheless, strictly true. At each potting, examine your tree for borers, just above your roots. On the stem they are easily detected; feel around the stem, if hollow, you will find the borer. The appearance of gum does not always indicate their presence. About the middle of December, remove to a dry cellar to protect from frost. If there is not a cellar, let them be laid down in the viney and covered with straw or leaves. If this plan is adopted, there will have to be a fire kept in the house sufficient to keep the frost out. I start my peaches as I start my vines; peaches and vines being grown in the same house, making three successions. First house starts 1st of January, second, 1st of February, third, 1st of March. I only have one knife-pruning, which is done by cutting down to a fruit eye, which is distinguished by a double bud. There are single eyes that are fruit buds; those buds are round, the wood buds being long, but the single ones we do not generally depend on. Cut out all wood that does not show fruit-buds. I have a walk through the houses, thirty inches wide, a plank, eighteen inches wide, on each side, to hold in the border compost. This border I make stronger than the soil used for potting, using three parts loam and one part well-decomposed manure. Let this be thoroughly mixed; this is to support the roots that come from the bottom of the pot. I then plunge my pots to the rim, and so close that the branches of each plant nearly touch. Stop them when growing, as mentioned above. I take out all superfluous wood; put on a mulching of cow dung on top of your pot, leaving one quarter of an inch to hold water (as it will shrink); syringe twice a day with water, same temperature as the house. When your buds begin to swell, use twice a week, in watering, one-third part liquid manure; as they progress, use one-half liquid, and use it three times a week; when in flower, water moderately, rather keep-

ing them dryish, and avoid syringing until your fruit is set; keep a moist heat, by keeping the floors wet. If your houses are heated by hot water, keep your troughs well filled, as it evaporates; if by flues, and no troughs on them, keep pans well filled with water. Let all the fruit that sets remain; don't thin any, as your plants are strong enough to ripen all, and if too thin, they are liable to crack.—About a week before they are ripe remove them to the open air, and plunge your pot about six inches and water very sparingly with clean water—in fact, keep them nearly dry. This will give your fruit a fine flavor and a good color. In removing the trees from the house, cut all the roots off that have grown from the bottom. When



FIG. 38.—*Tree in Fruit, Second Year.*

the fruit is gathered, plunge the pots to the rim in a south or east aspect, to ripen the wood, and use no more liquid manure until you commence forcing the following season; keep the syringe going. This treatment is for growing in vineyries, and of course the same temperature must be observed if grown in an orchard house. My temperature after the setting would be from 10 to 15 degrees higher all through. An orchard house will save the necessity of removing out-doors to get flavor. The following are the varieties that I use for pot culture:

PEACHES—Hale's Early, Haine's Early, Early York, Early Crawford, Late Crawford. George the 4th, Large Early York, Noblesse, Stump the World, Troth's Early, Red Cheek Melacatoon, Cole's Early Red, Early Tillotson, Early Newington, Gross Mignonne, Jacques Rareriipe.

NECTARINES—Stanwick, Boston, Violette Hative, Pitmaston Orange, Elruge.

APRICOTS—Large Early, Largo Red, Large Early Moorpark, Peach, Kaisha, Orange. Other varieties may be added to please the taste, but I have found the above the best for forcing.

THE CURRENT WORM.

BY L. A. M.

HAVING read in the report of the meeting of the Farmers' Club, in New York, something about the *Currant Worm*, which is hardly more than a guess, very far from the truth, permit me to describe for your readers the insect in all its transformations. It is of a kind known as measuring worms, about an inch and one quarter in length, when full grown; of a bright

them daily with specimens from the gardens. With a garden trowel the earth was turned up, and the chrysalis and the worms, half contracted and incapable of motion, were exposed, precisely like those in the sand under my glasses. The chrysalis, small and almost black, would easily escape notice.

Comparatively few of the worms appear to become butterflies, but still sufficient numbers do pass the chrysalis stage to insure a bountiful supply of worms year after year.



FIG. 39.—*Currant Worms.*

orange or yellow color, finely spotted with black, is extremely active, and a voracious feeder. They begin to appear about the middle of May as a very minute, almost black worm, and increase in size and numbers until the middle of June, when they begin to leave the bushes for the earth about their roots. I had them under glass in all stages of growth, and compared



FIG. 40.—*Chrysalis and Perfect Insect.*

They remain in the chrysalis state two weeks, and emerge as small maize-colored butterflies, with faint gray marks on their wings. They flutter about the gardens, never staying far from the currant bushes, for ten or twelve days, and gradually disappear. All those I kept under glass died soon after their escape from the chrysalis state, and I could not discover where those in the gardens laid their eggs, but I am very sure that they are deposited upon the bark of the currant bushes. I buried a quantity of the live worms in a hole about a foot deep, packing the earth over them as hard as I could. For three days they were crawling out of that hole as fresh looking

as ever, and measuring the road to my gooseberry bushes with hungry haste. No amount of *mashing* with trowels or spades seem to kill them after they touch the ground, but they can be drowned very easily. Their name is certainly *legion*, for I have known nine hundred to be shaken from a single bush, at one time. I remember seeing the same worm occasionally some twenty years ago, but it is about seven years since they have appeared in such numbers as to become a pest. I do not see any apparent diminution in their numbers, even in those gardens where they are picked off

and destroyed daily in incredible numbers. I believe that a small lantern, set in a pan of water well soaped, would attract the moths at night, and by falling from the sides of the lantern into the water, they would be drowned, which would be a much easier way of destroying them than picking off the worms one by one with the thumb and finger, as most of my friends do. I should like to tell you about the gray worms which ate my pansies, and my *toads* which ate the worms, but I do not know as you care to hear. However, if you do, let me know and I'll tell you all about them.

ANTIRRHINUM.—SILVER BELT.

BY PETER HENDERSON.

A great acquisition to our variegated plants, being (unlike most variegations) of robust and healthy growth, leaves

glossy green, margined on each edge with white, occasionally tinted with pink; making a compact bushy plant when in bloom,



FIG. 41.—*Antirrhinum*.—*Silver Belt*.

of from 18 inches to 2 feet in height; flowers in dense spikes beautifully marked crimson and white. The plant originated

with me last season among a lot of seedlings, the seed of which I imported from Germany.

NEW SEEDLING CARNATIONS.

FIG. 42—*Carnations—Flatbush and President Degrav.*

THE monthly carnation being so important and desirable a plant for winter blooming in our greenhouses, to furnish cut flowers for bouquets and table decorations, we take much pleasure in presenting to our readers an illustration of two new seedlings, which were produced by Messrs. Dailedouze & Zeller, Flatbush, L. I., from seed received from the Botanic Gardens at Geneva, Switzerland.

No. 1. *Flatbush*.—Pure white, very large flower, deeply fringed, fragrant; very full plant; a strong grower and profuse bloomer.

2. *President Degrav*.—Pure white; flower very full, and of perfect form; finely fringed and fragrant; plant of dwarf habit and a profuse bloomer.

We consider these, flowers of high merit, and a valuable addition to this class of plants.

A NEW PEAR.—“MARY.”

Ohio, through Professor Kirtland, has given the pomological world many varieties of cherries, one or two pears, while other eminent fruit-growers in that State have brought out, from time to time, apples, pears, cherries, raspberries, strawberries, &c., until the State has acquired a renown for fruit-growing. Last summer, we re-

ceived two varieties of seedling pears from Mr. Christopher Wiegel, a German tree and fruit grower at Cleveland. They were both so good for their season that we at once made drawings, and then prosecuted enquiries as to their habits of growth, origin, &c.

Herewith we present drawings of the one



FIG. 43.—*Mary Pear.*

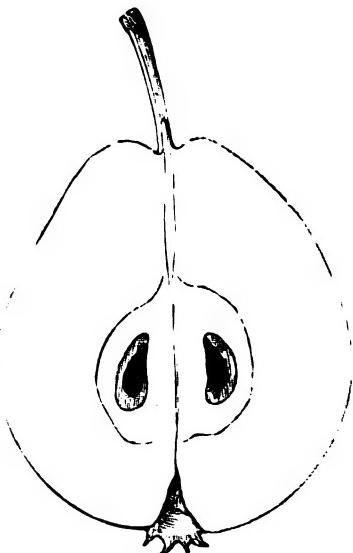


FIG. 44.—*Section.*

received by us as No. 1, and which Mr. Wiegel now names Mary.

Our drawings were made, as will be seen from two different specimens, with a view to get the mean size. The history of this pear is, that Mr. Wiegel, some years since, planted seeds, he thinks, of Seckel pear, and from the trees grown selected two to keep, because of their early coming into bearing, their upright vigorous habits of

growth, profuse bearing, and good quality of fruit.

The tree of Mary is upright, vigorous in growth; young wood, yellowish red, smooth, and short-jointed; buds prominent, with a leaf partaking of combined character of Seckel and Flemish Beauty. In bearing, its fruit hangs in clusters all along the limbs on short spurs, and its productiveness is second to none. The fruit is usually a

little below medium size; form generally globular obtuse, pyriform, occasionally one-sided; stem, three-quarters of an inch long, moderately stout, slightly curved, and planted in a narrow angular cavity; calyx, rather large; segment, erect, or nearly so; basin, broad, very shallow, almost imperceptible in many specimens; color, rich pale yellow, mostly overspread and dotted with bright rich red, becoming deep red next the calyx, and showing small grey dots, occasionally a little russet near the stem;

flesh, white, finely granulated, almost buttery, juicy, sweet, "very good" even to the seeds; core, small, eatable; seeds, rich brown; season, before the Madelaine, or early to middle of July.

As a market as well as amateur sort, this pear promises well, and should at once go into hands of pear-growers, for trial in different sections of the State.

We shall give cut and description of the other variety in our next.

THE READING PEAR.

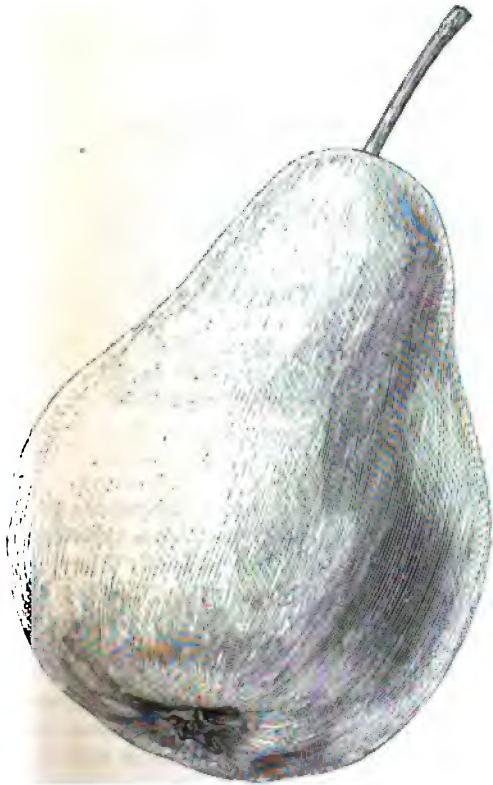


FIG. 45.—*Reading Pear.*

WE have received fine specimens of this winter pear from W. Kessler, Esq., of Reading, Penn., who furnishes us with the following description:—Has been known for eighty years past in Oley township, Berks Co., Penn., where it is now extensively grown. Tree, vigorous, and a remarkably fine bearer. Fruit large, elongated, obtuse pyriform, angular and ribbed. Skin yellow, thickly dotted with brown and gray dots, and sprinkled with russet. Stalk long, curved, enlarged and ribbed at its insertion, generally in a depression. Calyx open; segments strong, in an exceedingly shallow basin. Flesh whitish, granular, melting, with a brisk, vinous flavor. Season, January to March.

PLAN FOR IMPROVEMENT OF GROUNDS.

BY EUG. A. BAUMANN, LANDSCAPE GARDENER, RAHWAY, N. J.

I send a design I have laid out in the vicinity of New York, and which is already grown up sufficiently to show the effect of a systematic grouping, the most important object in laying out and beautifying a Country Seat.

This plan, located some two miles off the station of Mamaroneck, Westchester Co., on the New Haven R. R., between several other handsome country seats, lies on Long Island Sound.

When its owner, Wm. G. Read, Esq., gave me orders to remodel it, I found the cottage, stables, vegetable garden and orchards established, but bordering on both sides on a long, straight and quite

narrow approach, leading from the gate to the front of the cottage.

On the said front, wherefrom the ground slopes down on two sides, the natural shape of the land had been left untouched, and without any regard to convenience and beauty, there was a turn in the road around a regular oval, of about 15 or 16 feet wide.

On this turn, the place where the road touches the house, it was at the right elevation; but below the oval, simply designed on the slope, the road was nearly four feet below the upper level, and you had to drive from the door down-hill around the oval, and up-hill again to reach the drive.

It was an every day's arrangement, good

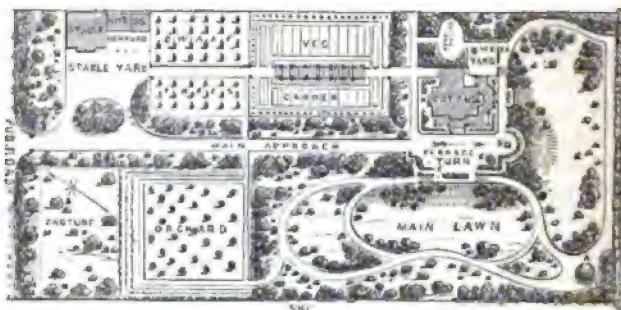


FIG. 46.—*Plan of Grounds.*

enough on a level ground; but with such a slope the consequence was, that every shower carried all the gravel from the house behind the oval, undermining this as frequently, and carrying all this stuff on top of the lawn below, which, therefore, could never be kept in a decent order. This was one of the greatest troubles to the gardener. It took more to keep his drive in front of the house, as well as his lawn, in order, than the balance of the whole place.

The stable-yard, the pasture lot, orchard, small-fruit trees and vegetable garden reached only a few feet from the drive; the

stable-yard was open altogether; the balance was embellished by a double row of various sorts of trees, hardly 12 feet apart, across the drive, shading this, but leaving a full view of all kinds of crops that may not be always pleasing in a small country seat.

The remnant of the plan, which may be considered now as the pleasure-ground or lawn, was planted with a collection of trees and very few shrubs, scattered in a very irregular way all over the place, showing trees everywhere without harmony or connection. There was no dense shade nor open lawn, with circulation of air, and the

lawn, besides not being drained, in place of having fine, smooth grass, had more the appearance of a swamp in some places, and in others more moss than grass.

I took charge of the place for the very small sum of \$650, for carrying out everything in the line of gardening, and altered the place according to this plan.

1st. The main approach was widened to 14 feet, and correctly graded, and on both sides a border of over 20 feet wide was trenched and prepared for a collection of trees and shrubs mixed, ornamenting the drive, and hiding the vegetable garden, orchard and pasture grounds.

Between the stable-yard and the drive, a bold group of evergreens was established, to hide it from persons driving by, but leaving it accessible from both directions.

2d. In front of the house there was a terrace established, wide enough to allow the turning of carriages, and as far as the banks were high enough, an iron railing, 3 feet high, was put up to define correctly the regular outlines of said terrace.

The corners of the terrace, outside of the space required for wheeling around, were employed for some flower-beds; the railing itself was intended to support a large display of climbers, and in the semi-circular projection at B, in the very centre of the approach, there was a piece of statuary, or some seats or benches intruded, with a full view along the drive on one side, and on the Sound on the other.

As it will be noticed on the design, the planting around this terrace is intended to make it more prominent still. Openings from the circular projection, and opposite the front of the house and the bay window, have been managed; and so as to make them more conspicuous, the intervals have been stocked with evergreen trees.

3d. The trees already on the place, mostly of the leading varieties, or rather the more common varieties met in nurseries, scattered all over the place without idea of grouping, without any idea of harmony of size, foliage or color—were all removed

and planted according to the wants of the place, the most important one being to bring near-relatives together in groups, and to leave open lawns on which the grass could grow.

Most of these trees, being of large growing sorts, had to be employed on the outskirts of the place, and partly in the rear of the borders along the main avenue.

Trees of smaller size, and flowering shrubs had to be employed in front of them, so as to close up the groups with a diversity of foliage that developed itself from the tops of the tall trees in the rear, down to the grass in front of them. Thus were formed dense groups and belts framing the lawn, and arranged in such a way that hardly one variety was employed that could not be seen from one or more places.

The openings left, having their sides treated in the same way, were made thus more natural and more conspicuous.

Scattered over the lawn, single specimens of rarer varieties have been planted at such distances from the paths, that they can be noticed everywhere; if planted among the groups or belts they would be lost.

4th. The main approach has received a new, correct grade from the main entrance up to the terrace. The walks have been altogether graded, stoned, and drains managed under them, carrying off all the standing water.

All the places occupied by trees were well trenched, at over 2 feet depth; the lawn well graded and spaded 10 to 12 inches deep, and now there is fine grass on it.

I saw this place in the latter part of November last, when the foliage had dropped, but notwithstanding, I felt a great satisfaction, and so far so much of a success, to think it worth while to send you the drawing of it, made from memory alone, and therefore, perhaps, not quite correct in all the proportions.

Mr. Wm. G. Read furnished all such articles that were not in the gardening

line; the iron railing cost (iron was cheaper then) about \$400, put up and painted. Some other expenses for the frames, gravel, stones, sods and a summer-house of rustic work, at A, may have cost some \$400 more. All included, I suppose the whole

improvement did not exceed \$1,500 or \$1,600, and I know from Mr. Read himself that he does not regret it, as he was offered a very large profit on the place as soon as it was done.

NOTES ON THE JANUARY NUMBER.

Although unable to write notes on the two last numbers of the *HORTICULTURIST* for 1865, I assure the writers I read them with much pleasure; and to some I really felt that I wanted to add a word, not that what I might add would of itself be of any great value, but that a hint here, and a question there, often sets "one-a-thinking," and occasionally draws out mind where the owner himself know not of its extent.

In compliance with a courteous request of the Editors, I propose, during the coming year, to read, monthly, the *HORTICULTURIST*, and jot down such thoughts as its valuable articles may suggest. Should my plain manner occasionally seem harsh, I trust no offence will be taken, as the intention will be to encourage and assist rather than to criticise.

The January number comes replete with most valuable matter, and as the Editors have given us notice that only practical matter will be admitted, we must, in our writings, as in our labors, keep the object steadily in view, and although we may be criticised by book-makers and those who work by the book, yet, should we "not do all at once," if, at the end of the year, we have studied out some new system, or proven the fallacy or truth of some old commendation, we shall feel that our time has not been entirely lost.

ON NOT DOING ALL AT ONCE.—"Graduated progress is essential to all rational enjoyment," says the writer. Let me add that progress in Horticultural or Agricultural matters has never been witnessed in the labors of those who go by the book.

It is the true lover of rural life—the enthusiast, if you will, in Horticulture and kindred pursuits, to whom we are indebted for the progress that now yearly, almost daily, marks the rural life of this country and has already placed us, in many things, far in advance of older countries, where the working talent is mainly confined to system and books. During nearly thirty years of observation, I find that only those imbued with an enthusiastic love of fruit and flower, tree and shrub, &c.—such men as Wilder, Kirtland, Dana, &c.,—accomplish or attempt much that lays out of a direct line of truisms laid down in the books.

Let no man fear being too enthusiastic in rural pursuits; it may not always add to his bank account, but he will lay up a store of enjoyment not to be purchased with money.

To the remark, that "most planters are afraid of the axe," I must give a hearty assent; for in a practice of years, cutting away has been one of the most difficult things that I have had to contend with in the advisement for the improvement of grounds.

HOW TO REMODEL AN OLD FARM HOUSE.—A good representation of what is often being done; and could our farming people be woken up to a tithe of taste, such remodelings would increase until, instead of tasteless, though comfortable, houses, our farm residences would become pleasing structures ever to be remembered by the outgoing children in connection with their fire-side associations. The farming community, as a whole, are rich, and now is the time to

urge upon them to use the taste of some other than their village carpenter in the construction of their buildings.

MY NEIGHBORS AND MYSELF.—A pleasant record of a New Jersey neighborhood that might be fitted for many other locations. I hope no grape-grower will take his record of the manner of growing grapes as a method to be adopted; it smacks too much of past ages, and returns to mildews, rank, spongy and tender wood, &c.

GRAPES IN 1865.—Coming, as this article does, from one who claims knowledge upon the subject of grapes, I am surprised at it. All Horticulturists, I believe, acknowledge that years are requisite to prove the value of new fruits, and especially of the grape; but here, in a list of sorts advised for "*profit*," are varieties that two years since were hardly known, and as yet have been fruited in only very few places. The assertion that grapes, like other fruits, will grow in any good soil, is all right, but to assert that an equal *quality* of grape can be grown in any soil, is simply to belie the teachings of all the past and present. I like to see a man strike out bold, and must, therefore, compliment the writer on that part, and suggest that he be ready, for I ween he may have to hear of others writing on grapes and giving some different views.

WHAT NOT TO DO.—Here is the kernel in a nut-shell—a short article—and besides telling what not to do, the writer gives two plain, practical items on drainage and making cuttings that, to one who has been accustomed to go by the book, are worth the year's cost of this journal. As Mr. Henderson says, it is worth as much to be able to steer clear of the rocks other practitioners have blundered on, as to have directions how to proceed. The last are all written, but the blunders are not often told by those who err.

LONGEVITY OF TREES.—As a rule, few know anything of the natural age of trees, and especially of the exceptions where specimens have weathered the storms of hun-

dreds of years. To all such this article will be one of great interest.

PLAN FOR LAYING OUT A SQUARE ACRE.—A very good plan, but I fear not as often practical as one would be where the same amount of land is embraced in one-half the width and double the depth. Suppose the author gives one in that proportion. To this plan I suggest, however, the change from gravel around the house to smooth, green turf. The turf reflects heat less in summer, is quite as cleanly for children to play on, and gives a better relief to the elevation of the house. One more suggestion—some place for a cow-paddock; for if "one acre" is "enough," a cow must be provided for. It is a great item in the expense of a poor man's family. The question of quantity of land, as to how much is enough, I reckon depends very much on the owner's views of expenditure, as well as capacity to take charge of it. I know one man who, from a lot twenty-three feet wide, and one hundred and twenty deep, whereon is placed his dwelling, realized, the past year, three hundred and twenty dollars, from sales, and with this amount and the use of his surplus crops, considers it enough for his wants.

GARDENS AND PARKS IN GERMANY.—It always does me good to read of the German manner of universal enjoyment, and while reading this article, I imagined myself sitting beside the various groups on the turf, as I have often done in this country. As the writer says, in this country all public gardens are of some private enterprise, or possibly of Corporation ownership, where so many officials in "brief authority" hold sway, that, in a measure, part of the enjoyment is lost. St. Louis, Mo., probably, has more places of amusement and recreation, after the family system of the Germans, than any other city in the United States, and there I have often passed a pleasant hour in what too strict disciplinarians call "beer gardens." Americans, as a nation, are money-seekers—ever working, never resting, but like other na-

tions, winding up their mortal coils with a similar result—i.e., inanimate matter.

A TRIP TO VINELAND.—Ah! here is what we want. Every journal has been issuing call, by way of advertisement, for settlers, until too many of us have come to look upon the item as one in which the advertiser kept the best end of the bargain. Now we have a reliable account, and from one having, as may be presumed, no “axe to grind.” The location of New Jersey, between two of the largest cities in the States, possesses undoubtedly better market facilities than any other section of our country. The highest prices are at once at command of the grower of fruit or produce, no deduction has to be made, as in many sections west, on account of transportation, &c.; but, while conceding all favorable to New Jersey, it is not quite fair to decry other sections. Most of the new towns of the West have equal advantages of “good society;” they also possess “places of worship,” and their children, judging from the records of the numbers in each State that do and do not read and write, have at least equal “advantages of education at small expense.” It is not every man that is fitted for a gardening life, or that would be satisfied with ten or twenty acres, and while New Jersey may offer inducements to the truck-grower, or grower of the small fruits, as strawberries, etc., he who would farm it in a strict agricultural sense will find his way west, and gain thereby.

To the man of small means, with a love of flower, fruit or vegetable growing, New

Jersey offers extra inducements, for, fill it as rapidly as you may, and increase the quantities of fruits and vegetables ever so fast, New York and Philadelphia will still keep ahead in demand. Looking back upon peach-growing as an instance—when the Reynolds planted their orchards on the Delaware—we (then of New York city) congratulated ourselves that only a few years would elapse when we could buy peaches at a low price. But how has it been? At no time since 1840 have peaches sold in New York as cheap as they were previous to that time, and peach-growing is now more profitable than ever. The same may be said of all fruits, from the strawberry up. When the writer first commenced strawberry growing, he sold at an average of five cents per quart, and counted that profitable. Now, our poorest markets command seven to nine cents when the crops are contracted, and many growers receive from twenty to thirty cents per quart on an average. Fruit-growing to the Horticulturist, like stock and grain-growing to the Agriculturist, may be advised *ad infinitum*, and so long as man lives, the demand, with the price, will rather increase than diminish.

NEW HYBRID PINK.—From the description, this must be a valuable acquisition. The Rose, Pink, and Verbena have always been pets of the writer, and no one thing ever gave more satisfaction than a bed of Picotee pinks of some sixty varieties, when in bloom.

REUBEN.

DIAGONAL TRAINING IN VINEYARD CULTURE.—I.

BY D. M. BALCH, SALEM, MASS.

At the risk of being considered tedious, we mean to venture a few remarks on the trite but important subject of vine-training, and to propose a method, which, as far as we know, has never been practiced, but which seems to fulfil certain requirements, and may prove valuable.

It is our belief that there is no one divi-

sion of viticulture of so much consequence as the proper training of the vine; for on this depends, in a great measure, the health and duration of the vineyard, the quantity and quality of its products, and the recompence it shall bestow upon the cultivator for his toil.

The many systems that have been, or are

now in vogue, are valuable by as much as they coincide with, or depart from, certain laws of vegetable growth, which we can not infringe with impunity; for the fact that the vine, having a facile nature, can accommodate itself to circumstances, is no argument that it will not be restive under ill treatment, or, on the other hand, grateful for intelligent care. These systems allow the vineyardist the utmost latitude for selection, and free scope for the exercise of his judgment; for in a single day's travel among the vines one can see the application of numerous methods, involving all grades intermediate between a dense mass of foliage excluding air and light, and on the other hand, a mere network of branches and clusters, half shaded by a few scrofulous-looking leaves. One enthusiast, taking Nature as his guide, would permit his vines to wander, as in their native woods, among the boughs of lofty trees, untouched by pruning-knife, and unrestrained in their luxuriance; while another pictures in his mind the theoretical vine as a short staff, more or less straight, and furnished at regular intervals with rich heavy clusters.—But the leaves? Well, he admits that a few are necessary; and so arbitrarily limits each vine to a certain number, one or two beyond the fruit, and these he is determined it shall not exceed, if he can prevent it. The former is rational at least, for Nature a true mistress, and will not lead her votaries astray; but he defeats certain great ends and objects of vine-training to have the crop within easy reach, to keep it there, and to economise space. But the latter is irrational. Working out his theory with thumb-nail and pruning knife, he transgresses natural laws, is continually sapping the vigor of his vines, and will be deservedly punished with unripe fruit, and wage ceaseless warfare on that species of vegetable marasmus, mildew: *vineta sua cedit.*

Against close pruning and defoliating the vine, the following conclusions of Schleiden are a very strong argument; plants in a state of cultivation are predisposed to dis-

ease, that is, they are more susceptible of morbid influences than in their normal condition, since we seek, by a peculiar mode of treatment, to develop certain structures, or to increase certain constituents inordinately, and thus overthrow the natural equilibrium: "The general morbid condition produced by cultivation is heightened into specific predisposition to disease when the conditions of cultivation are opposed too strongly, or too suddenly, to those of Nature."—Now, Nature has not provided each cluster of grapes, like the apple, pear, cherry, and indeed most fruits, with a small bunch of leaves, but has placed it near the base of a free-growing branch, which keeps ever extending as its fruit approaches maturity.—What, then, we ask, can be more unnatural than the restricting this branch to two or three leaves beyond the fruit it is striving to perfect, and persistently checking each attempt that the vine makes to repair the injury? We thus give the plant a shock that it feels, no doubt, in the uttermost rootlets, and deprive it of the very organs it most needs. What wonder, then, if mildew, be it a cause or a consequence of disease, is so prevalent among the vines, and half-ripened fruit so abundant in the market?

It is well known that sap tends to the extremities, and while flowing freely through a branch, causes a vigorous growth, most of the buds producing twigs; but when we check its flow by bending down, twisting, or otherwise manipulating the branch, it thickens, and induces the incipient wood-buds to blossom. In most systems of vine-training, the fruiting cane is fastened either vertically or horizontally; in the former, we have to fear that the uppermost laterals will be over-stimulated at the expense of those near the base; and in the latter, that the growth of the laterals will be too vigorous on account of their vertical position. Training at an angle of 45° has been found very favorable for the production of both foliage and fruit (see the writings of Bréhaut and others), and it is our intention in

this paper to apply this method of training, "diagonal," or "*en cordon oblique*," to the vine, modifying it somewhat to meet certain conditions.

A practical system of culture for the vineyard should keep all parts of the vine within easy reach, occupy all the ground and trellis-space advantageously, provide for the annual renewal of certain portions of the vine, not infringes too rashly upon its natural habit, and, as far as possible, ensure ripe fruit and healthy foliage, without extraordinary skill or tedious supervision.

It is not our purpose to write an essay on the cultivation of the vine, so, passing over without comment the selecting and locating a vineyard, and the preparation of its soil, about which so much has been said and written that the subject seems nearly exhausted, and yet, strange to say, few agree, we turn at once to our theme—the vine itself.

The condition of the vine at planting is of the greatest importance. If its constitution has been debilitated, whether by springing from an unhealthy parent or from neglect in infancy, extra care and attention will not succeed in rearing from it a hardy and healthy plant, and our hopes for its future are vain. The large planter who extends his vineyard year by year, will probably raise his own stock, and can watch over it from the bud; but the beginner will have to content himself with purchased vines. These, if obtained from reliable parties, and of the first quality, will usually do well; but it is a good plan for him to establish a nursery, in which he can give his purchased vines a year's growth, to recover from the effects of transplantation and transportation, and exhibit their vigor.—This nursery may be, like the vineyard, a bed of sandy loam, deeply worked, and only moderately fertile, since it is not our purpose to force the vines, but give them a healthy start, and, by a little care and attention, accustom them to their new locality. In the Fall, all weaklings ought to be destroyed, and the strong plants trans-

ferred to the vineyard. A vine with three or four feet of short-jointed wood, exceeding one-fourth inch in diameter, may be considered suitable for permanent planting; and if this be carefully raised, and as carefully reset, it scarcely feels the shock of removal; our vine is then cut down to six or eight eyes, and a slight mound of earth heaped over stalk and roots for winter protection.

With returning Spring, the buds will start, and most of them may be suffered to grow at random, for the growth below ground will match that above, and plenty of roots are needed for next year's work.—The surface of the ground should be well worked during the growing season, and lightly top-dressed in the autumn; the vines cut down to three or four eyes, and covered with a mound of earth. These directions serve only for the establishment of strong healthy vines, and are applicable to all systems of training, which commence in the second or third spring, as the case may be.

We will now describe the system of "Diagonal Cordons" as concisely as possible:

We have planted our vines forty inches apart (some strong growers may require four feet), in rows eight feet apart, treated them as above described, and have them now pruned to three or four eyes, and covered with earth, waiting for spring. At the proper time, we uncover the vines, and from buds about six inches from the ground allow two shoots to grow, the weaker of which is to be stopped at about the sixth leaf, and not suffered to extend much further; but the stronger trained upward to a temporary stake, and permitted to grow unchecked till autumn, merely stopping once or twice over-vigorous laterals, as it is our purpose to grow a long stout cane. In the Fall, this cane, which ought to carry ten or twelve feet of ripe, short-jointed wood, half an inch in diameter, is cut into eight feet, and the short cane to two buds. We may cover or not, as one pleases, this

winter; the vines are now well-established, and if the soil has not been so rich as to force a rank succulent growth, but the wood is healthy and well ripened, they ought to be in a condition to stand the vicissitudes of climate in most localities where a grape can be raised largely to advantage.

Early next spring, the trellises may be built. Posts are set 13½ feet, or 16 feet,

apart, so as to enclose four vines between each pair of posts. To these, horizontal pieces are spiked, one at seven, the other at one foot from the ground. The slats are about one inch square, and are nailed to the horizontals at an angle of 45°, and twenty inches, or two feet apart from centre to centre.

GARDENS AND PARKS OF GERMANY.—Continued.

Upon these streets, which are broad, well paved, and lined with trees, the houses are mostly set some distance back, with lawns in front, and often upon one or both sides of them. The fences are generally of iron, while back of these run beautiful arboritae, fir, or box hedges. The walks are generally bordered with beautiful flower-beds and low hedges of box. They are either gravelled, or covered with a beautiful fine quartz sand, of a yellowish hue. The turf is kept closely shaven, and is adorned here and there with some fine evergreen, some bronze group or crystal fountain.—You see a great deal of ivy trained over arbors or the walls of the buildings, while sometimes you see it growing intertwined with hedges. Verandahs and balconies are very common, and these are often covered with luxuriant vines. Here and there you see large bay windows, filled with a profusion of brilliant plants, many growing down from hanging baskets to meet their companions on the stand below.

The wealthy Berliners pay much attention to their hot-houses and conservatories, any of which are filled with the rarest exotics. It is a favorite practice with them to bring their conservatories out into their grounds in summer, and placing hundreds of pots together, to build up pyramids ofugal splendor and artistic taste on their front lawns, or often on the spacious steps which lead up to their mansions. The effect

thus produced is one of wonderful beauty, as you pass by one after another these floral displays, each seeming to surpass the other in magnificence. The elegant mansions, the green lawns, the clear fountains, the trim hedges, the marble and bronze groups, all uniting to form a fitting accompaniment to these rainbow-hued groups of Nature's most cunning handiwork.

In the suburbs of Berlin is an immense locomotive manufactory, employing several thousand workmen. The founder of the establishment, Mr. Borsig, was an amateur botanist of great reputation, and expended large sums of money in his botanical pursuits. He has passed away, but his son still keeps up the gardens. It is not so much the grounds, as the hot-houses, the green-houses, the pinery, and the palm-house, which renders this place almost without an equal.

When I first entered the principal greenhouse, the effect was wonderful, was amazing. I stood and looked in silence upon the scene before me. You see before you a forest of Camellias and Azaleas in the fullest bloom, artistically arranged in a semicircle, rising up many feet, to meet a gallery along whose walls beautiful Camellias, trained like vines, formed a living tapestry. The ground was carpeted with a most delicate moss, studded with fair primroses. In the centre an exquisite fountain of the purest white marble, crowned with a

lovely statue, gave a completeness to the whole. The air was fragrant and cooling; the scene one of the quietest beauty, nought breaking the silence, save the rippling of the fountain—which alone seemed pure enough to commune with the silent wonders of God's creation round about. Passing to the next apartment, through a large archway verdant with climbing vines, a profusion of splendid Magnolias, rododendrons, and exquisite plants unknown to me, reared their proud flower-crowned crests above and around us, seeming to flourish in all their native vigor and beauty. As a centerpiece, a singularly graceful New Zealand Cypress, rose high above its gayer companions, and then bending in graceful curves, swept the very ground with its drooping tresses. All around us upon stands, were the rarest green-house plants, and the most perfect specimens of the familiar hyacinth, and tulip, lily and salvia. Further on was a third apartment, where a fine collection of delicate ferns, some of great size, rose from a bed of greenest moss. Now leaving the green-house, you pass through a corridor containing an Eden of beautiful flowers, and enter the palm-house. This is in keeping with the rest of the establishment, and is hardly to be surpassed.

It is not so extensive as some I have seen, but it is by far the best arranged. It is laid out in tasteful walks and contains several fountains. No where have I seen the strange and gigantic creepers of the tropics, so tastefully trained. One of the finest existing specimens of a singular creeper called the philodendron, was here trained up an artificial rock, for more than twenty feet. Its stem was four or five inches in diameter, and its digitated leaves of a dark glossy green, more than eight inches in breadth. All around rose luxuriant fan-shaped palms, giant cactaceae, and immense-leaved bananas. Everything looked strange, everything looked tropical. The strange vines, and parasitical plants, the gorgeous-leaved spæcrogynes, the tow-

ering bamboo and monster fern, all seemed whispering to us of their far off sunny climes. Not the least interesting to me was the house of the Orchidaceæ.

This was a large hot-house, devoted to rare exotics, many of them belonging to the same class as the common orchid.

The building was about 250 feet in length, and constructed of glass and iron. The collection cost originally \$30,000, and was once one of the rarest and most extensive in Europe. The young botanist who was then in charge of it was a friend of mine, and it was only through him that I gained admittance to it, as it was not open to the public. Under his superintendance the plants which had been very much neglected under his predecessor, were undergoing a thorough course of treatment.

All of these exotics require the tenderest care, and the greatest watchfulness, in order to keep them vigorous. If neglected they soon sicken, become blighted, and cease to blossom. The atmosphere requires to be kept very warm and moist, the temperature averaging 80 degs. The greatest enemies of these children of the tropics are insects, and from these they have to be zealously guarded. A large number of these plants seem to grow mostly from air and moisture, and are potted in soft moss. Others dwelt in hanging baskets filled with moss, and struck out vigorous air roots through their openwork receptacles, which like the locks of Medusa, seemed living and moving though objects of beauty and not of horror, for from them burst forth strange and beautiful blossoms, some of which shaped like butterflies, as bright and frail, swayed to and fro with the least breath of air. Here were, perhaps, some twenty varieties of the Calceolaria or Moccasin plant, whose singular yellow or pink Moccasin-shaped blossoms, as it grows with us, is known to you all.

Here were assembled many curious and beautiful varieties unknown to northern climes. Most of them were almost as remarkable for the beauty of their leaves as

for that of their blossoms. One from the Philippine Islands, had a very pretty spotted leaf, resembling on a large scale, that of our wild Adderstongue. The blossom of one was red and white, beautifully variegated; that of another, from Borneo, of a strange glossy green; while that of a third was so dark a purple as to seem almost black. Some of the other orchidaceae were most magnificent, such as the Vanda Suavis of Java, with its superb spikes of white blossoms, studded with purple, or the Brassavola of Honduras, with its fringed flower of purest white. And here were also many strange Nepenthes, relatives of our Pare's Hillpitcher-plants, gathered together by adventurous botanists from Brazil, the East Indies, and the islands of the Southern Sea. With us the pitchers form a part of the leaf, but with most of the foreigners the pitchers were independent, connected only by a slight stem three or four inches in length, to an oval leaf. In one case the pitchers, all about the size of thimbles, grew upon the stem of the plant itself. Many of these plants

grew like vines, and were trained for many feet over trellises. The subtle aroma of these fair flowers, combined with the moisture-laden steaming atmosphere, produced an oppressive strange sensation, dreamlike, trance-conducive. And what must be the effect of such a vegetation as this in its native clime, among the "summer's isles of Eden, in dark purple spheres of sea." Mr. Borsig's place was small, but a gem, and a head gardener and some twenty men were engaged in caring for it. The grounds were tastefully laid out, and contained many of the rarest evergreens and shrubs, some of which had to be kept during the winter, in an immense greenhouse fitted up for the purpose. Naught could be more pleasant to one tired of the noise and dust of the city, than to make a visit here. To feast one's eyes upon the wondrous flowers and plants; and, strolling through the grounds, to recline under the fine old trees, and to listen to the sweet strains of the nightingale who sang nowhere sweeter than here.

"GREELY PRIZES."

THE Committee appointed to award the Greely Prizes on apples and pears, met for that purpose at the residence of William Carpenter, Esq., New York, on Dec. 2th, at 3 o'clock, P.M.

All the members were present. After the Chairman, Dr. Warder, called the meeting to order, the Secretary, P. T. Quinn, read the minutes of the previous meeting, which were accepted.

The Committee regret to state that, although the time for the action of the Committee has been delayed for more than a year, in the hope that a more liberal response would be made by fruit-growers in rewarding choice varieties for competition, the following is a list of the varieties presented for examination:

APPLES.—*Hubbardton's Non Suck, Falla-*

water, Swaar, Baldwin, Tompkins Co. King, Rhode Island Greening, Northern Spy, Winter Pippin, and three varieties of Seedlings.

PEARS.—*Bartlett, Lawrence, Duchesse d'Anjou, Dana's Hovey, Sheldon, Beurre d'Anjou, and Louise Bonne de Jersey.*

For the information of those interested in the awarding of these premiums, the Committee desire to incorporate in their report the portion of Mr. Greely's original offer, relating to the apple and pear.

After speaking of the purpose he had in view, Mr. G. says:—"I offer \$100 for the best bushel of apples, which combine general excellence with the quality of keeping in good condition until the 1st of February, and is adapted to the climate and soil of the Northern and middle States.

It is not required that the apple submit-

ted be new, but it is hoped that one may be found which combines the better characteristics of such popular favorites as the Northern Spy, Baldwin, R. I. Greening, Newtown Pippin, or a majority of them. Let us see if there is not a better apple than the established favorites; if not, let us acknowledge, and act on the truth.

I further offer a premium of \$100 for the best bushel of Pears, of a specific variety, size, flavor, season, &c. It must be a pear adapted to general cultivation. It need not be a new sort, provided it be unquestionably superior; but one object of the premium is to develop unacknowledged excellence, if such shall be found to exist.

One object of the premiums is to afford a landmark for fruit-growers, in gardens and small farms, who are now bewildered by the multiplicity of sorts challenging their attention, each setting up claims to its unapproachable excellence.

I leave the determination of all questions, which may arise as to the propriety of making a prompt award, or waiting further developments, entirely to the appropriate department of the Institute.

Signed, HORACE GREELEY.."

The Chairman, Dr. WARDER, made some interesting remarks, setting forth the embarrassing circumstances under which the Committee were called to the discharge of the duty devolving upon them, growing out of the fact that many of our best fruits have their locality in which alone their characteristic excellencies are developed. And hence the apple or pear, regarded the best in one locality, may prove an indifferent fruit in another. But adaptation to the entire range of the Northern and Middle States, with healthfulness of habit in both tree and foliage, as well as size, flavor, and season of fruit, is demanded by the requirements.

The first ballot gave Hubbardston Non-Such 3, Baldwin 2, Tompkins Co. King 1; the chairman not voting. After a full and free discussion of the comparative merits of these and other varieties, the Hubbards-

ton was ruled out, as not meeting the requirements of Mr. Greely, in keeping in good condition until the 1st of February.

On the third ballot, the vote was, for the Baldwin four; for the Rhode Island Greening three. Whereupon the Chairman declared the Baldwin to be the choice of the Committee. Messrs. Downing, Ward, Sylvester, and Ferris, for Baldwin; and Messrs. Warder, Carpenter and Quinn; for R. I. Greening.

In the selection of a pear, from the list of candidates above named, the ballot was made, as in the case of the apple, without consultation. The first ballot gave the Bartlett four and Sheldon three. The Chairman declared the Bartlett to be the pear. Messrs. Downing, Ward, Sylvester and Ferris, for Bartlett; Messrs. Warder, Carpenter, and Quinn, for the Sheldon.

It was then determined that the Committee should select, by ballot, six varieties of apples and six varieties of pears for general cultivation, comprising two Summer, two Fall and two Winter varieties. Mr. Hovey, of Boston, who was present, was invited to take part in the vote.

It was a matter of surprise when the result of the first ballot was read by the Secretary. Without consultation for the two Summer fruits, the vote was as follows:

APPLES.

Summer—Primate, 6; Red Astrachan, 5.
Fall—Porter, 6; Gravenstein, 6.

Winter—Hubbardston Non-Such, 6; Northern Spy, 5.

PEARS.

Summer—Manning's Elizabeth, 5; Roseteizer, 5.

Fall—Sheldon, 8; Seckel, 6.

Winter—Lawrence, 7; Dana's Hovey, 5.

The following resolution was then read and unanimously adopted:

"Whereas, in consequence of the reading of a communication from P. B. Mead, published in the *Tribune*, a question has arisen in regard to the action of this Committee as to the postponement of the award of the grape premium,—therefore,

Resolved—That we do reaffirm the action had at the meeting in September last, when it was agreed, in concurrence with the expressed wishes of Mr. Greely, and in what we believe to have been the unanimous judgment of this Committee, that we should defer action until a future period."

It was gratifying to the Committee to examine such choice lots of Winter pears as were voluntarily sent to this meeting. Elwanger & Barry, of Rochester, New York, exhibited 30 varieties, which were highly creditable to them. Their yearly contributions of fruit add much interest to the annual exhibition of the Institute.

C. M. Hovey, of Boston, exhibited 27 varieties; many of them, new sorts, and all well grown.

Mr. H. is one of the early friends of horticulture in this country, and his collections of fruit at the Institute Fairs have always attracted attention.

Wm. L. Ferris, of Throgg's Neck, exhibited seven varieties of Winter pears. Although less in number, they were not inferior in quality, but on the contrary, most creditable to the grower.

Isaac Buchanan presented one variety, and George Bancroft, the historian, exhibited two varieties. Mr. B. is a zealous friend of horticulture, and will soon have an extensive pear orchard at his place at Newport.

It was moved and adopted, that the Committee adjourn, to meet at the Fall exhibition of the Institute, to be held

September, 1866. The time and place Mr. Carpenter would make known to the members.

Before closing this report it is our pleasant duty to render, on behalf of the Committee, a hearty acknowledgment to Mr. Carpenter, at whose residence the meetings were held. Though grateful resolutions were duly passed at the last meeting, the friendly and generous hospitality of our host is firmly impressed upon the minds of those who, in fulfilling the trust confided in them, felt their task lightened and supported by Mr. Carpenter's co-operation and gentlemanly liberality.

Not only horticulturists, but that vast horticultural society, the public, are deeply indebted to Mr. Greely for the interest awakened by this entire movement. That its results will prove beneficial none can doubt; but Mr. Greely's offer assumes even more importance when considered in the light of an initiatory idea.

When those burdened and surrounded by manifold public responsibilities can take an active part in special developments of horticulture, it behoves men of influence, possessed of abundant leisure and ample means, to take a hint from the "Greely Prizes."

JOHN A. WARDER, Chairman.

P. T. QUINN, Secretary.

John A. Warder. Charles Downing.

I. M. Ward. Wm. S. Carpenter.

Wm. L. Ferris. P. T. Quinn.

E. W. Sylvester.

APPLES AND PEARS.

THE result of the deliberations of such men as composed the committee appointed under the auspices of the American Institute, to award the Greely Prizes (as reported in the *Horticulturist* for January, with reference to apples and pears), is one

of more than usual importance. It is plainly within the province of the *HORTICULTURIST* as a magazine, and the horticulturist as an individual, to call particular attention to it, at this time, as one of the guides which may safely be taken with refer-

ence to tree-planting during the ensuing spring.

The reputation of all the apples named is so well established, that the list, so far as it goes, would, doubtless, be accepted by acclamation by any pomological association.

The list of pears is especially noticeable and commendable, for the prominence which is given to those of domestic origin. Those who, like the writer of this, have planted, replanted, and transplanted; grafted, re-grafted, budded, and double-worked a variety of foreign pears—and, generally, with but indifferent success—will be disposed to join in the wish that they had been favored with such advice twenty years ago; and unite in commanding it with all its brevity, to those who have neither time nor means to throw away in experimental pear culture.

Wherever a particular apple or pear has a first-class local reputation, any fruit-grower would, with the greatest propriety, substitute it in, or add it to, any list for general cultivation, however highly recommended as a whole. For instance, the Pinneo Pear so-called, (but miscalled the Boston, in certain localities in New England), would be planted as a summer pear in place of the Rostiezer. So, too, the Roxbury Russet—a well-known and highly popular late keeping apple—would still be retained by many, as the dominant fifth in the harmony which embraces the Early Harvest, the Golden Sweet, the Baldwin, and the Rhode Island Greening.

The Primate, by the way, is the apple alluded to, and partially described, in the *HORTICULTURIST* (vol. 14; p. 471), as the North American Best. It came, originally, from New Jersey, and was first brought prominently to the notice of the horticultural world by means of a communication in Hovey's Magazine, in 1850, accompanied with an editorial description and outline engraving of the fruit. It is exceedingly popular, and widely disseminated in this vicinity.

The Dana's Hovey Pear—which finds it-

self so suddenly elevated by the action of the committee, to its present high rank among the select few—is of comparatively recent introduction, and its credentials are herewith annexed; more especially for the benefit of the younger members of "our parish," for whom, in fact, this brief article is particularly penned.

We quote from the *Magazine of Horticulture* (vol. 25; No. 5):—"This most remarkable production is undoubtedly the richest pear known. To say that it is as good as the Seckel would be praise enough; but it is more than this. It has not the spicy aroma of that old pear, but it has what is more luscious—a peculiar nectar of its own, unsurpassed, and apparently unapproachable—a refined compound of the aroma of all other pears—a sort of honeyed juice, delicately refreshing and luscious.—The tree is almost as remarkable as its fruit. It is a very vigorous, though not rapid grower, making stocky, short-jointed wood, like the Seckel. In habit, it is erect and pyramidal, like the Buffum. It is extremely hardy; its productiveness appears abundant, and its keeping qualities wonderful; never rotting at the core; and with proper care it may be had in eating up to the first of January. Ripe in November and December."

So rapidly has this variety strode into public favor, that it is now less than six years since its merits were recognised, and brought to notice by the Massachusetts Horticultural Society, by the bestowal of a gratuity and silver medal upon Mr. Dana for its production.

NOTE.—Our friend, J. O. Cose, suggests that it is sufficient proof of the excellence of the Dana's Hovey Pear that it has survived such a fulsomely eulogistic description, even as it stands abbreviated, as above.

Another humorous and poetical (?) friend thinks that "salt saved it," for he says that the description of an article for sale is, generally taken "cum grano salis."

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. WOODWARD, 37 Park Row, New York.

THE DELAWARE GRAPE.—This plate just published is the finest illustration of the Delaware Grape that has yet appeared in this country. We have had it prepared with great care, and confidently recommend it to all. On heavy plate paper, handsomely colored. Price, post paid, Three Dollars; or sent free to any subscriber who sends us two new subscriptions and Five Dollars, in addition to his own.

NEW ENGLAND FARMER.—Published weekly, at Boston, Mass., by R. P. Eaton & Co.; Two Dollars and fifty cents per annum. Its contents are carefully prepared. Market reports full and complete, and as authority on all agricultural matters, has few equals. Its circulation is large, and we speak from experience when we say it is one of the best of advertising mediums. Look up their prospectus in our advertising columns, and add this paper to your list. No one loses anything, either in time or money, who pays for and reads all the leading Agricultural and Horticultural journals. The man who steadily goes backwards is the one who does not take a paper; his farm can be picked out as easily as oats from wheat.

MESSRS. EDITORS.—I would be under obligations if you would give me some information relative to the construction of a dry house for a small orchard, say 200 trees; heating the same, &c.

JAMES Y. CLEMSON, Caledonia, Ill.

Can any of our readers furnish us a sketch and description of a building suitable for the above purpose, for illustration.—Eps.

THE LATE PROFESSOR JAMES J. MAPES.—Prof. Mapes, the eminent agriculturist, has passed from earth. Though he had at-

tained the ripe age of sixty years, his death nevertheless strikes the community as premature. There was such a wealth of resource in the man, so much already performed, and so much still to be achieved, that the crown of his busy life seemed to be but the pledge of an ever youthful activity.

Settling, in 1846, upon a stony, barren tract of land near Newark, New Jersey, he, in time, through an improved and judicious system of culture, rendered it, as admitted by all, the most productive and successful farm of its size in the State. Meantime, he started an agricultural paper, which he continued to edit for fourteen years, when his failing health forced him to resign. He invented the rotary digger and subsoil plow, and other improved implements; advanced and promulgated many important theories and discoveries—among the most striking of which may be cited his theory of the Progression of Primaries in nature. He was among the first to advocate the formation of an Agricultural Bureau at Washington, the head of which should be a Cabinet officer, holding equal rank with the Secretaries of the other Departments; and in the course of three years delivered 150 lectures, analyzed the soils of over 200 farms successfully, advising their mode of culture; and probably wrote more on agriculture than any other man living.

ROBERT REID, an eminent florist, died in this city on the 24th of December, 1865. Mr. Reid was a native of Scotland, and came to this country over fifteen years ago; he contented himself by following the business of a florist, and making a very large circle of true friends; but in earlier life he was a well-known character and used to contribute, as a writer, to some of the best hor-

ticultural literary publications in England. He was an honorary member of the London Horticultural Society, and could claim close companionship with such men as Dr. Lindley, Sir W. J. Hooker, Robert Errington, Donald Beaton, J. C. Loudon, and Robert Thompson, all of whom are well known as authors, and have done more to raise horticulture to its present dignified standing than any other men. He was one of those veteran horticulturists that we can ill afford to part with.

WINE FROM THE CLINTON GRAPE.—We are indebted to Judge Woodward, of Reading, Penn., for a bottle of wine made from this grape by John Fehr, Esq., of that place. This wine bears much evidence of skill in its manufacture, which is more than can be said of the majority of native wines that have come under our notice. Though but one year old, it is already of fine flavor and body, and has a character quite distinct. The Clinton deserves a high rank as a wine-grape for those localities, where it can be thoroughly ripened.

MANURE FOR EVERGREENS.—Years ago, we were taught that animal manures were injurious to evergreens; but for four or five years past, we have practiced, applying old, well-rotted barn-yard manure to evergreens of all sorts, and apparently with the best possible results. Our trees and shrubs grow vigorously, and put on a deeper, brighter green; while kalmias and rhododendrons flower more abundantly than in our old practice of leaf mold manuring.

THE ROOT OF THE GRAPE VINE THE SEAT OF MILDEW, ROT, &c.—Dr. Schroeder, of Bloomington, Illinois, an extensive and successful grape-grower, asserts that rot, &c., may be prevented by renewing the vine yearly, by means of layers, and thus cause it to fruit from canes, the roots of which are near the surface.

If we mistake not, Mr. Saunders, of the Agricultural Department Garden at Wash-

ington, inculcates similar views, in recommending the cutting away of the old part, or top roots of the vine, from year to year, and thus causing it to make new surface roots. Similar are the deductions from the old English practice of a mass of stone, &c., underneath all the border wherever the grape is to be grown.

In this matter of depending upon the surface roots, there is undoubtedly much that is correct; but, at the same time, we must not discard the main roots. The one extreme, heretofore practiced by German vignerons, of cutting away all surface roots, and depending only on the lower and deep roots, it is patent, has shown error; and we judge the other extreme of only looking to the surface roots would exhibit equal error. There is a mean to be taken to ensure success.

GRAFTING GRAPES.—The practice of grafting old standing vines with new sorts, by sawing off the crown just at the surface of the ground, then splitting it and uniting the graft, and afterwards earthing up all around it, is pretty well and generally understood. We have, however, found that splice or whip grafting on to a cane of last year, and then layering the cane, leaving only the last bud of the graft visible above the ground, to be among the good ways of obtaining new sorts, or changing varieties. Grafting cuttings of two buds on pieces of roots, and planting them out early, in the open border, leaving only the open bud level with the ground, and then mulching with some light material, as sawdust, &c., is also a successful way of growing many sorts that do not readily strike from cuttings in the open ground.

SEVERAL VARIETIES OF SHRUBS IN OYL.—Amateurs of flowers are frequently desirous of having all the varieties of lilacs, upright honeysuckles, wiegelias, &c., but have not room to plant them. As a remedy, we tell them that an amateur friend of ours takes, for instance, a bush of the

old-fashioned lilac, and engrafts on its various limbs one or more grafts of the Persian, Josikean, Charles X., &c.; and on one bush of wiegelia rosea he has amabilis, middendiflora, &c., thus giving many varieties and occupying but a small space of ground.

Would not plants so grown by nurserymen meet ready sale? We think so.—What nurseryman will step out of the beaten track, and try the putting of several varieties of allied shrubs on one bush as an item of business.

PEONIAS.—All herbaceous peonias that have been growing in the same place three or more years should be separated and replanted. Early in spring is the best time. Tree peonias may also be grafted on roots of the herbaceous sorts, and grown successfully.

The use of about four bushels of salt, with one bushel of plaster (gypsum), per acre, and sown early in spring, is found profitable as a manure to dwarf pear plantations; and on grass grounds its evidence of value is so great, that whoever applies it once will hardly fail of doing so in succeeding years.

BEST TIME TO SEPARATE LAYERS FROM THE VINES.—A correspondent writes that a "large portion of his layers of grape vines made the past season, and left on the vine, have already been destroyed by the surface freezing and thawing, thus breaking off the roots, which afterwards are rotted by too much wet."

Layers, unquestionably, should be cut off from the parent plant, taken up, and heeled in, in some dry and sheltered position in the Fall. This, we believe, is the common practice of those who grow layers of grape vines for sale. A little practice of one of our friends during the past year leads to a question as to when is the best time to separate the layer. His experiment was in cutting free the layer in July, or after it had thrown out roots two inches long; and his statement is, that such layers in the

Fall had nearly double the amount of roots of those left to grow connected with the parent vine. We suggest to practitioners the making trial of cutting away layers from the parent vine this coming season, at different times—say July, August, and September—and oblige by sending us account thereof.

A grape amateur at the West—viz., Wm. Muir, Esq., of Fox-Creek P. O., St. Louis County, Mo.,—writes us that he has now one hundred and three varieties of grapes growing, the most of which, if not all, will be in fruiting the coming season. He also, with Mr. Hussman, of Hermann, writes us that Rogers' No. 1 promises of great value in Missouri. This is what we should expect, as their length of season and great heat must cause it to ripen perfectly, which, as a rule, it fails to do in its native locality.

CREDITABLE.—“The Meramec Horticultural Society,” of Missouri, have issued a circular to all fruit-growers of the West and South, in reference to the holding of the next meeting of the American Pomological Society in St. Louis next Fall. They call for action of all fruit men, and for co-operation of all railroad men, city authorities, &c., &c., in presenting not only a show of fruits to eastern men, but a free show of the State, by passing members of the convention over it, that they may see and understand the adaptation of Missouri to the uses of an enlightened people, to its advantages as a fruit region, and its value as a country promising abundant remuneration to the prosecutor of any business. We shall look for a good time when the meeting convenes.

ASHES FOR POULTRY.—When feeding our hens the past winter, we have practiced mixing a small handful of wood ashes with the meal, and found an apparent benefit to the fowls. We also give in the meal, twice a week, about one tea-spoonful of Cayenne pepper. Our stock numbers thirty birds.

GARDEN ROYAL APPLE.—This variety is among apples what the Seckel is among pears—a fruit of surpassing excellence in quality; but it is only medium in size, and not particularly showy for market sales.

Every grower of the apple should possess one tree of it for his own use.

PLANTING PEAS.—In planting peas this spring, our friends should remember that experiments have proven that the pea will vegetate at even one foot deep, but that a mean depth of four to six inches is best—say one furrow depth of plowing, or a spade depth of that implement is used in preparing the ground. If planted too shallow, say two inches, the vines soon dry up; and if too deep, they are liable to mildew sooner than when a medium depth is had.

ROCKWORK.—One of our correspondents writes, that for several years, in the practice of landscape gardening, he has been in the habit of using our common wild brakes or ferns in constructing simple but effective pieces of rockwork, at little cost. Where a northern exposure is had, or on a bank adjacent to water, even if a south exposure, their growth and beauty is retained as perfect as in their native wood locations.

DIELYTRA SPECTABILIS ALBA.—A specimen of this new variety of our well-known hardy herbaceous plant, is now in bloom in our green-house. The flower is in all respects like the pink variety, except in color, which at first is a pure white, afterwards changing to blush. The foliage is of a light green, even from the first commencement of growth. It forces well, and is a desirable acquisition, both for the garden and in-door culture.

HOW TO RAISE EARLY CUCUMBERS.—1. A good method to produce early cucumbers is the following:—Make a trench at the warmest place of the garden; into this put old manure—about three inches—and on this good earth—three inches—on this plant

the seeds, and cover them with sawdust—two to three inches. Cucumbers thus treated are said to come earlier, to endure rain, drought, and even a little frost, far better than those treated another way.—Against severe night-frosts they should be protected by boards.

2. Take middle-sized flower-pots; fill them two-thirds with good soil; put the seeds on this, and cover with sawdust; sprinkle with warm water, and put the pots near the stove. On the appearance of the plants, place the pots near the window.—Care should be taken to harden the plants before transplanting them into the garden, by admitting air to them both day and night.

3. Take egg shells (the hole to be on the upper end three-fourths of an inch), fill them with good soil, and therein plant the seeds. Plants thus raised, kept either in the house or hot-bed, are easily transplanted.

HOW TO RAISE MANY CUCUMBERS.—1. Never take fresh seed of last season, but always take seeds two to four years old.—Who can not get old seed, should have his fresh seeds dried near a warm stove during several weeks. Some gardeners, in order to obtain this end, carry their seed in their pockets. Old cucumber seed will bear earlier and more fruit. Fresh seed will make weak plants, and is longer in germinating.

2. Pinch off the end of the main shoot. This will strengthen the growth of the vine, the laterals will come out sooner, and you will get more fruit before frost sets in again.

HOW TO GET FINE FLAVORED CUCUMBERS.—1. Get your seed from a reliable seedsman.

2. Soak your seed in milk for about twenty-four hours before sowing.

ACELLELUS.

Several valuable articles, Table matter, book and catalogue notices, &c., in type, will appear in next number.



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State of Illinois.

The rapid development of Illinois, its steady increase in population and wealth, and its capacity to produce cheap food, are matters for wonder and admiration. The United States Commissioner of Agriculture estimates the amounts of the principal crops of 1864, for the whole country, as follows: Indian corn, 530,681,403 bushels; wheat, 160,695,823 bushels; oats, 170,690,064 bushels; of which the farms of Illinois yielded 138,356,135 bushels of Indian corn; 33,371,173 bushels of wheat; and 24,273,751 bushels of oats—in reality more than one-fourth of the corn, more than one-fifth of the wheat, and almost one-seventh of the oats produced in all the United States.

Grain—Stock Raising.

Pre-eminently the first in the list of grain-exporting States, Illinois is also the great cattle State of the Union. Its fertile prairies are well adapted by nature to the raising of cattle, sheep, horses and mules; and in the important interest of pork packing, it far in advance of every other State. The seeding of these prairie lands to tame grasses for pasture or hay, offers to farmers with capital the most profitable results. The hay crop of Illinois in 1864 is estimated at 2,160,723 tons, which is more than half a million tons larger than the crop of any other State, excepting only New York.

Inducements to Settlers.

The attention of persons, whose limited means forbid the purchase of a homestead in the older States, is particularly invited to these lands. Within ten years the Illinois Central Railroad Company has sold 1,400,000 acres, to more than 20,000 actual settlers; and during the last year 204,422 acres—a larger aggregate of sales than in any one year since the opening of the road. The farms are sold in tracts of forty or eighty acres, suited to the settler with limited capital, or in larger tracts, as may be required by the capitalist and stock raiser. The soil is of unsurpassed fertility; the climate is healthy; taxes are low; churches and schools are becoming abundant throughout the length and breadth of the State; and communication with all the great markets is made easy through railroads, canals and rivers.

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THE HORTICULTURIST.

VOL. 21,-----1866.

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THE
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THE ENEMY.

To most of our readers this word may, and doubtlessly does, sound very stale and tiresome. We have all had enough of war and military glory, and the one aspiration now is for peace; never before did the word sound so sweetly. We are told in the Gospel to *love* our enemies; these may be classed under two heads, private and public; the latter are those whom our Declaration of Independence happily recognizes as "enemies in war, in peace friends." Private enemies are bad enough and we leave them to the Gospel dispensation, but the public enemy is our present theme, and albeit we are at peace with all the world as a nation, (and we would feign hope also as editors), yet there is an enemy against whom we find it our bounden duty, as faithful watchmen of the public weal, to lift up our voice of warning, and to cry aloud. It is a public enemy, an enemy to our nation at large, to every man, woman and child that lives on this blessed continent. An enemy with whom we can make no terms; who will never yield until utterly conquered; who

must conquer us unless we subdue him; a robber and despoiler, the march of whose army will not be told by desolating swarths of separate columns, but proceeding in a line of battle whose flanks rest on either ocean, will leave one general ruin in his rear. This enemy is Insect Life. He is commanded by two able generals, both as cruel and remorseless as they can be. To personify them, we will say that the commander-in-chief is General Curculio, and his lieutenant is the Apple Moth. They have invaded us with full strength, and the cry is still they come. They have no base, but live on the country through which they march. Cruel and unsparing, moving on conquering and to conquer; holding and occupying the land. Now then as the vigilant and faithful watchman on the walls, we sound the alarm, and cry "to arms" Our thoughts have been led in this direction by the scarcity of fruit in our markets, and its corresponding high price. The apple for instance, dearer in the New York market, even in its season, than the orange; our

own most common and plentiful fruit become dearer than an imported and tropical fruit. And yet we may say of the apple, that it is not a luxury, but become just as much a household necessity as the potato. The other fruits we can perforce look upon as luxuries, but not so the apple, this we must have; our little ones require apples for health sake; they cry for them more than they are said to do for Sherman's lozenges, and those cries must be stilled by us at an expense of from three to five cents for every plaint. Apple sarsaparilla, apple butter, every-day things of the good old past, are now enumerated among the transitory blessings of this life. How different all this from our younger days! We now live in the State of New Jersey, and we remember that in our school days, our geography was wont to describe this State as "famed for its fine fruit." This fame now seems to be a myth, for the more truthful description of the present day would be, famous for its want of fine fruit. We have watched this change with a melancholy interest, and it does seem to us as if during the past fifteen years, this change has increased with each succeeding year. Probably at no time in the history of the State, has more fruit been planted, or greater attention paid to its culture than at present, and yet, certain it is, that never was there so little fine fruit seen in the State. It may be said as true to a general intent, that not a perfect apple has been raised in the State of New Jersey during the year 1865. If any one possesses a perfect specimen of this fruit raised in the State, we would like him to exhibit the same as a curiosity, and will take our sack in hand and make a pilgrimage to see it, and do him reverence. We take the apple as our illustration the more especially, because the most important, and generally the most plentiful of all the fruits, and yet the one on which the most wholesale devastation has been wrought. Of the smooth skin stone fruits, such as the apricot, the nectarine and the plum, we scarcely deem it worth while to make men-

tion, for no one now undertakes to fruit them unless it be under glass. And what we have to say of the State of New Jersey, is equally applicable to the neighboring States, particularly near the sea coast. The great question then is, where is this going to bring up; where is it all going to end? It needs no prophet's vision to foresee. We can tell you in plain words what will soon be the result, not only in the State of New Jersey but in every State in the Union; and that is, that of no fruit will we ever have an abundance, but with each year an increasing scarcity of all those which formerly we enjoyed in superabundance. The apple will be more scarce than the pear, and by and by, both will be among the things that were. So too with the fruits of a shorter season, the cherry and the peach. The former is already sparse, and the latter must in time yield and come in for its share in the general doom. And all this the result of the remorseless enemy. These are sad thoughts to contemplate. We are not croakers, but speak words of sober truth, however disagreeable they may sound. There is no mistake about it, unless something is done, and done soon, we shall have to bid good-bye to our fruit. As we have said, this enemy will conquer us unless we subdue him. It will be asked, can nothing be done to avert this calamity? We answer unequivocally, yes! Yes if we arouse ourselves in time, and fight the enemy without rest. One steady campaign against him until the victory is assured. We have a natural ally in the birds, once on a time a match for the enemy, but now, from our bad treatment, his wasted ranks are overmatched. What we want is concerted action—pulling together—not like General Grant's baulking team, but all acting together, at one and the same time. We want a general dissemination of practical knowledge in the art of conducting this war—practical knowledge brought home to every grower of even a single apple or a single pear tree. Much has already been done in certain quarters; the science of the

Entomologist has been brought into requisition, and we have, as the result of his investigations, much valuable knowledge, but it is generally of a kind but little adapted to the wants of plain, practical farmers and fruit growers. We want information stripped of all technical terms and scientific phraseology. We want books which shall describe the various insects to fruit and vegetation in such wise that they may be known and recognized the moment they are seen; lessons which will teach us to discriminate between friend and foe, to discern either at glance, and to know their seasons, their transformations, their modus operandi and their whole life. Pictures colored true to nature to assist the learner, for no mere print and description will suffice to identify the insect to the unlearned; he must have



FIG. 47.

exact picture in form and color, for the insect tribe is so numerous and various that in black drawings seem to produce only confusion in the minds of the ordinary student, and in despair he gives the subject as beyond his scope.

This desideratum has lately been supplied in part by Dr. J. P. Trimble, Entomologist of the State Agricultural Society of New Jersey. The work is entitled "A Treatise on the Insect Enemies of Fruit and Fruit es," published by William Wood & Co., New York. The part now in print treats

of the Curculio and the Apple Moth, or as it is commonly called, the Apple Worm. The author has done good service to the cause by this work; he seems to have laid aside all pretensions or desire to appear as a book maker, but on the other hand to be animated by an enthusiastic wish to communicate information in a simple, straightforward manner, ignoring all scientific phraseology, and teaching his lessons in plain English, without any particular care as to systematic order, so long as he makes himself and his subject thoroughly understood by the reader. His style is quaint, with an occasional smack of quiet humor quite refreshing. The illustrations of the work are done in a masterly style, and as specimens of art, are, in themselves, worth the price of the book. In them we have the ravages of the insect brought before the eye, just as we see them in the defective fruit we handle. Of these illustrations we have selected one for this article, which we use by permission. It represents a trap made of a rope of hay, the invention of Dr. Trimble, who says: "Two years ago I took from the crotch of a young Bartlett Pear tree, an old boot leg that had been doubled up and forced into that crotch. It had become so hard and dry, and the growing tree had pressed it so closely, that it had to be cut to pieces to get it out. This was in April. That old boot leg contained in its different folds, sixteen of the worms of the Apple Moth, in their larva or caterpillar condition, all snugly tied up in their silken cocoons. When these cocoons were opened the worms would creep off, just as they would have done when taken from apples or pears in the fall or summer before. Since then I have tried everything I could think of that would be likely to suit the fancy of these little caterpillars, having this instinctive impulse to seek out places for concealment. The result has been, that the hay rope band, as shown in this plate, is not only the cheapest and most easy of application, but the best of all the contrivances that I have tried thus far."

The mode of applying the hay rope is seen in the cut, and consists simply in winding the rope moderately tight three or four times around the tree, and securing the end so as to prevent its becoming loose and falling off. The marks below the band show the slight cavities made by the Apple Worms under the rope, as seen after slipping it up and taking out with the point of a knife the cocoons. The tree in the cut represents one in the garden of a friend of the author in the city of Newark, on which he had experimented in this way and caught nearly two hundred worms in the year 1864. The author says, "These bands should be put on the trees as soon as the fruit shows signs of the worms being at work, from the middle to the last of June. They should be examined every two weeks, as long as the warm weather lasts, the earlier broods of worms becoming moths, and producing a second crop. If the orchard is pastured, the bands must, of course, be put out of reach of the animals. Sometimes it may be necessary to place them round the limbs; in that case the scales of bark on the bodies of trees below them should be scraped off." The tree in the plate, our author further says, "showed until some time in June, a promise of a most bountiful crop; but then the young apples began to fall, and persevered in falling till not a dozen were left to come to full maturity." Here we have an evidence of what results from the combined attack of the Curculio and Apple Moth, and we know that there are hundreds of others who can relate a like experience, but who have never investigated the cause. We had the pleasure one fine day in the fall of last year, of witnessing, in company with several other gentlemen, the result of the Doctor's experiments with the hay rope, and can give our unqualified testimony as to his success. It is a very simple, inexpensive and quickly applied method of fighting the enemy, "In examining the traps, all that is necessary is to slip it up the body of the tree a few inches, and all the little cocoons, with the worms inside of them, are so per-

fectly exposed that nothing remains to be done but to crush them with the palm of the hand, either with or without gloves: then push the rope back again to the same place, or lower if necessary, to make it as tight as it will well bear without breaking." Even if these bands should be neglected and time wanting to kill the cocoons, by simply taking off the straw, the birds will come and make a feast of them, and thank the foresight of him who, by so simple a contrivance, gathered all the worms of the tree into one little compass so easily got at. We feel that this subject of insect enemies is a most important one, that the evil can in no wise be exaggerated, nor the importance of a prompt and energetic action be over-estimated. Let every one then, as he hopes to preserve our fruit, begin at once to work; let clubs be formed everywhere, for the purpose of getting information on the subject and securing a concert of action. Let no one be discouraged at working singly, for he can do much to preserve his own fruit, if he does not effect the general result; but above all let there be a combination, so as to secure the end. Two or three vigorous campaigns and the victory is ours. Let any man who neglects his fruit trees and allows his fallen apples to lie upon the ground to add to the hosts of the enemy, be looked upon as a pest himself in his neighborhood. Let our Agricultural and Pomological Societies everywhere take the matter up. Let our Legislatures give every encouragement by passing stringent laws for the protection of friendly birds, and the giving to the masses, instruction in the science of fighting these insects. In the report of the Committee on Agriculture to the Assembly of the State of New Jersey, the subject is given quite a prominence. We quote an interesting passage, viz: "The number of insects known to naturalists comprehend some hundreds of thousands, and quite a large number of them are more or less injurious to the farmers' crops; but the insect enemies of fruit and fruit trees do not exceed twelve or fifteen, and if five

or six of the worst of them were thoroughly understood and conquered, fruit growing would again be a successful business. *And this can be done.* The protection of fruit from those insects can be made a fixed science, so that the man who chooses to go into the business of fruit growing, may be sure of success, provided he permits no other pursuit to

interfere with the proper attention to this, at the right time."

We commend our readers for further information to this elegant work of Dr. Trimble, which we hope to see carried out to its completion, and put into a shape which shall bring it within the means of every one.

DESIGNS IN RURAL ARCHITECTURE. No. 13—A SUBURBAN COTTAGE.

BY GEORGE. E. HARNEY, ARCHITECT, COLDSPRING, PUTNAM COUNTY, N. Y.

We used to indulge in an occasional talk with the members of the worthy brotherhood of horticulturists, concerning their country places—their houses, their gardens, their barns, and their stables, more than three years ago, when we were in Lynn, Mass.;

and, in so doing, gave ourselves a great deal of pleasure, while we endeavored to be of some service to them in building their houses, in laying out their grounds, and in appropriately ornamenting them, offering designs for their inspection, and, now and



FIG. 48.—*Perspective.*

then, throwing out what we conceived to be a suggestion for some improvement or other.

And now—located here on the banks of the Hudson, nearer the most of our readers than before, in fact, in the very midst of them, and consequently knowing their wants better—we again take up our pen and pencil, promising ourselves another indulgence in

the same pleasure of talking to them, hoping to make ourselves acceptable to our old friends, and to make new friends among the newer members of our brotherhood—those to whom as yet we are a stranger.

And we offer them at this time, in commencement, a design for a small cottage, such as one might build on a village lot of sixty or a hundred feet in width.

It is of frame, filled in with brick—soft brick, laid on edge in mortar—and covered with vertical boarding and battens, or with narrow horizontal siding; the roof covered with shingles cut in patterns; the cellar of rubble-stone; the wall 20 inches thick, laid in mortar.

The frame is of spruce or hemlock (the former is the best, but the latter is the most generally used in this part of the country), and the outside finish of white pine—the details few and simple, but bold and strong—everything meaning something, and telling its own story. The roof is quite steep, and the projection of the eaves broad to shield the sides, and the windows are all broad and airy.

The accommodation of the house is as follows:—A verandah, 6 feet wide, shielding the front entrance. The hall, con-

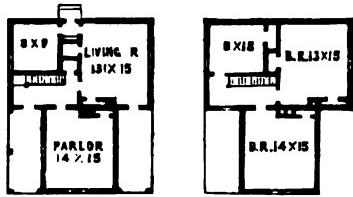


FIG. 49—First floor. FIG. 50—Second floor.

taining the staircases to the chambers and cellar, and opening into the several rooms on this floor. Parlor, 14 feet by 15, communicating by French casement windows with the verandah on one side, and with an open gallery on the other side, and having, besides, a large hooded mullioned window in the front.—This room has, also, what we consider indispensable in a country house, be it large or small—an old-fashioned open fire-place, for burning wood on the hearth, if wood can be had, or, if not, coal in a grate, and, besides, for purposes of ventilation. We think, for practical reasons, the old poetic sentiment of the family fireside and the blazing log should not be lost sight of, and there should be at least one room in every

house—the room that is the most used by the family as a sitting-room—made attractive and healthy by this means.

The living-room, measuring 13 feet by 15, is provided with two good closets, and opens into a little pantry, which is fitted up with a sink and pump, and other pantry conveniences. This opens out upon a stoop to the yard. There is also on this floor a room 8 feet square, which may be used either as a bedroom or as a store-room; it has no chimney, though if one were added, as easily might be, it could be used as an outer kitchen or scullery.

There is a cellar under the whole house, reached by stairs under the main flight.—It is provided with a rain water cistern, bins for coal, and the other usual cellar conveniences of lock-up—cold cellar, hanging shelves, &c., &c. It has a separate entrance of stone steps from the yard, and is 7 feet high in the clear.

In the second story are chambers corresponding severally with the rooms below, and each supplied with a closet.—There is no attic, but an opening in the ceiling of the hall communicates with the vacant space above the rooms, and into it ventilates the house, this space having ventilators under the peaks of the gables.

The front chamber has some importance given to it by the addition of an oriel window, after the fashion of some old English cottages—a feature which adds greatly to the brightness of the room, as well as giving some extra space. It is fitted up with a seat, and has glass windows on its three sides.

The interior of this cottage should be fitted up in simple manner with pine; the closets all supplied with shelves, and hock- and drawers; and the pantry with sink and other fixtures. The walls may have a hard finished surface, unless it be contemplated to paper them, in which case a cheaper covering can be used.

The inside wood-work may be stained in two shades with umber and oil; and to add to the effect, the finish for the best rooms

may be of selected stock, so that the finest and best-grained wood may be there used.

The outside should be painted three coats of some neutral colors of oil paint—say light browns, or drabs, or grays. The heights of the stories are 9 feet each. The posts are 14 feet long between sill and plate.

Cost.—This is an important item, but a very difficult one to come at in these days of changing prices. Two years ago, we might safely have named the cost of this house at a thousand dollars, but at present prices of labor and material, it would cost at least eighteen hundred dollars.

MILDEW AND GRAPE CULTURE.

BY WILLIAM SAUNDERS, WASHINGTON, D. C.

At page 39 of the February number of the "HORTICULTURIST," in an article on grape culture, I find the following sentences:

"Mr. Saunders of the Propagating garden at Washington, for a long time contended that aridity was the cause of mildew, then wavered and confined his remarks about aridity to the exotic grape, gooseberry and certain other exotic plants; now says that humidity is the cause of mildew on our native grapes, and by a covering to keep off moisture from the foliage, we can entirely prevent mildew."

With many others, my attention has, for a long period, been directed to observations on grape mildew; I have also on several occasions, taken the liberty of expressing my opinions based upon these observations. In order to show how far the views of your correspondent are correct, and how far erroneous, I propose tracing some of my recorded opinions on the subject.

Commencing with the "Philadelphia Florist" for 1852, at page 38 will be found an article by me on grape culture under glass. For several years previous, I had arrived at the conclusion that the cause of mildew on the foreign grape in this country, was induced by aridity. In this article, I quoted from my note-book of 1851, an instance where its ravages were checked "by closing all bottom or low ventilation, and keeping the atmosphere moist by liberal use of water on the floor."

At page 178, of the same journal for 1853,

in the calendar of operations for the fruit department, I again direct attention to this subject, and extend my remarks by alluding to the circumstance that various other plants of similar origin, are similarly attacked, but as I find that the remarks in that paper are in the main repeated in an article published in the "HORTICULTURIST," prefer quoting from it.

It may be well to state here that, being fully convinced from my daily practice, of the pernicious effects of bottom ventilation in producing mildew, I had several grapevines built in which no means were provided for front ventilation. I also advised others to build in this manner; and having advocated and practiced the erection of glass structures on the fixed roof plan, I drew attention to its superiority for grapevines on account of the low angle on which the roof could be laid, thereby providing a more equable temperature, and allowing an equal distribution of atmospheric moisture. The first structure built on this plan, so far as I am aware, I had built in 1850. This mode of constructing glass roofs is now very generally adopted.

In the volume of the "HORTICULTURIST" for 1855, at page 129, there is an article headed Grape Mildew, in which I stated my views on this subject, and from which I make the following extracts:

* * * "My experience in grape culture leads me to the belief that the true source of this disease has not been fully

recognised. It is well known that fungoid attacks are a consequence of disordered organism, and not a cause. The germs of parasitic fungi are constantly present in the atmosphere, ready to develop whenever they find a proper medium. This medium is found in decomposing organic substances, and such are seized upon, although decomposition is so incipient as not to be visible to the naked eye. The question then is, what occasions this disorganization in the grape? The answer will show the cause of mildew."

* * * "Mildew is so often associated with dampness, that, in the absence of practical observation, such a conclusion seems very plausible. I am of opinion that in this case we must refer it to a deficiency rather than an over supply of atmospheric moisture. *Lindley*, in his *Theory of Horticulture*, remarks that "mildew is often produced by a dry air acting upon a delicate surface of vegetable tissue," and we can readily suppose that the excessive and long continued heat of our summers would, by great and constant evaporation, weaken and tend to general debility, more especially in regard to exotics. This supposition is further strengthened by the fact that all our native grapes have thick skins, and are thus enabled to resist evaporation from their surface. Early forced grapes, that are ripe before the dry season, are never troubled with mildew. The gooseberry attains greatest perfection in cool, moist climates, with us it mildews. The leaves of many plants, not natives, as the English hawthorn, lilacs, &c., are frequently white with mildew in the hottest and driest seasons. I have long ago satisfied myself that mildew may be prevented by judicious airing. Admitting currents of dry air to come in contact with the young fruit will certainly produce mildew. I consider front ventilators quite unnecessary in graperies, and indeed they could be dispensed with in green houses also."

* * * "It may be necessary to observe, that I do not by any means suppose

that aridity is the cause of every kind of mildew. On the contrary, that is only one of many known causes, and I submit that it is the most likely in the present case."

During the years 1856-57-58 I prepared a monthly calendar of operations for the "*HORTICULTURIST*," and frequent allusions are made in these articles to grape mildew and its prevention, based upon the supposition that it proceeded from dryness.

For instance, at page 296 in the volume for 1856, under the heading *Grapery*, in the June calendar, I advise to "keep the atmosphere moist by frequently sprinkling the house with water; this will tend to prevent mildew. Ventilate exclusively by the top openings, and leave them open to a certain extent both day and night. "Ventilate early in the morning and shut up early in the evening," is common advice, and those who adopt such a course need not be surprised if their fruit is deficient both in color and flavor. *The fruit will ripen earlier when the temperature is kept low and cool in the absence of light.*"

It will be observed that in all these writings I have had reference exclusively to the foreign grape and its culture under glass. No mention whatever is made of the native species or their varieties.

So far as I can discover, the first time that I made any allusion to mildew on the native grape will be found at page 536 of the "*HORTICULTURIST*" for 1858. In a brief note treating generally on mildew, I remark as follows:

"The peculiar atmospheric conditions tending to the increase of mildew are not particularly well understood. I have frequently repeated my conviction that the mildew seen on the foreign grape under glass, on the gooseberry, lilac, &c., is induced by atmospheric aridity. This mildew develops in the form of a moldiness on the upper surface of the foliage, and frequently extends and envelops young growing shoots, in which case the bark seems to contract and crack into lengthened openings. Here can be traced a close re-

semblance to the cracking of the pear, going far to prove that it has the same origin. In sheltered city yards, where drying winds are arrested in their sweeping progress, and where a quiet and more humid atmosphere prevails, the foreign grape will frequently attain to a fair perfection. So also the White Doyenne pear is annually produced in its greatest perfection on trees similarly located, while in exposed situations, a few miles distant, a fair specimen cannot be procured. No reason that has ever been brought forward on the probable cause of pear cracking is so philosophical, or so much in accordance with recorded facts, as that which connects it with mildew. The mildew seen on the native grape, is apparently a different fungus from the above. Here the under side of the leaf is attacked, destroying the vitality of the tissue, which is then tender, and is speedily scorched by sun, and the leaves decay and wither. When this occurs during the ripening of the crops, the sudden loss of foliage prevents it from maturing, and hence many bunches will show one half of the fruit black and the other half green. This apparent scorching is most noticeable during the months of August and September, when heavy night dews are succeeded by hot sun, or after a few dull or rainy days."

In the above extract it will be observed that I have attempted to describe the different appearances of mildew as presented on the foreign and native grapes; this distinction I have ever since kept steadily in view whenever I had occasion to refer to this subject.

The next article I will refer to is one prepared by request of the American Pomological Society and published in their report of 1860.

In that article, (after considerable investigation of mycological works), I ventured to name the distinct forms of mildew, alluding to them as follows: "There are two very distinct forms of mildew seen upon the grape vine. One of these, which I take to be a form of *Erysiphe*, is mainly confined to

the exotic grape, and the other, a form of Oidium,* chiefly found upon the native varieties, I am not prepared to state that they do not respectively attack both the exotic and native grapes, for although I have seen the Oidium on the foreign sorts when grown under glass, I have not detected the *Erysiphe* on the native grapes. The Oidium, so far as my knowledge of it extends, makes its appearance in the grape house only on vines that have been grown in an excessively humid atmosphere, combined with a high night temperature, the shoots being very succulent and immature, if cold or dull hazy weather succeed a period that has been clear and dry, the Oidium will usually be found on the leaves. It presents itself in small patches, of a whitish color, on the underside of the leaves, and spreads rapidly. The affected leaves are readily detected after a few clear days, the sun turns these parts brown, and it then assumes that appearance frequently termed sun scald."

In this article I further directed attention to the species of native grapes most liable to mildew, having found that even in their native habitats the *Vitis Labrusca* was often mildewed when the *Vitis Cordifolia* was entirely exempt. The Clinton being a cultivated variety of the last named species, I suggested that attention should be given towards originating improved forms of that sort, so as to secure a race of truly healthy grapes.

Referring to the influence of culture I alluded to the fact that "vines allowed to clamber unrestrained over trees and bushes, will retain a vigorous healthy foliage, and ripen fruit, while branches from the same root, trained alongside on an open trellis, would be completely destroyed, in seasons favorable to mildew. We have also observed isolated cases of negligent culture, where vines have been allowed to grow during the whole summer unmolested, and ripen a good crop, while those that have been carefully tended, laterals kept in check, and luxu-

*I have since been led to believe that this is most probably a *Perono pora*.

riant growths carefully pruned, have failed to mature any fruit. Now the reason for this success, where success was not to be expected, is easily explained; simply the shelter of the foliage from the causes predisposing to mildew; in the first case by the foliage of the trees, in the other, by the mass of foliage left on the vine."

I then proceeded to give examples of the efficiency of shelter and protection, citing among others that of a common trellis protected by a board sixteen inches in width, nailed flat down along the tops of the posts.

I will now only further refer to an article at page 495 in the Agricultural report for 1861, headed *Remarks on grape culture with reference to mildew both on the native and foreign varieties.*

In this paper I again somewhat elaborately stated the result of my observations and practice on mildew, and recommended a form of covered trellis for out door grapes, accompanied with a sketch of the arrangement; remarking that "Undoubtedly shelter of some kind from sudden changes and atmospheric currents, is one of the most prominent expedients for preventing or modifying mildew, and every experienced grape grower can recall instances where

even a slight protection proved of great value."

The following remarks also appear in this paper:

"In advancing the opinion that grape mildew is merely the result of atmospheric influences, I do so from a conviction that my observations have been too extensive and too long continued to be mistaken, and too completely free from any preconceived hypothesis, or any ulterior object, to be swayed by prejudice. A further conviction in the correctness of my views, is furnished by the circumstance, that a course of practice, based upon a recognition of this opinion, has proved satisfactory, and has resulted in an immunity from mildew sufficient to establish the truthfulness of the observations which led to its adoption."

To conclude, in the Report of the Department of Agriculture for 1864, at page 616 the following sentence occurs: "Although mildew has been prevalent on many of the varieties, (of native grapes), all have escaped when grown on the covered trellis; a description of which was given in the report of 1861.

Experimental Garden, Feb. 6, 1866.

DIAGONAL TRAINING IN VINEYARD CULTURE—II.

BY D. M. BALCH, SALEM, MASS.

In our last, we had reached the spring of the first fruiting season, and had just completed our trellises, the vines carrying each one cane, about eight feet long, and a short spur of two buds. Shortly before vegetation commences, the soil should receive a dressing of ashes, and be put into good condition; wood ashes are an excellent manure for the vine, and appear to supply it with about all its needs; but of this again hereafter. When the buds are ready to start, the cane is trained its whole length to the diagonal slat nearest it, and disbudded so that the bases of the shoots may be

about six inches apart, and on alternate sides of the cane, sixteen in all. These shoots will probably show two or three bunches of fruit each, most of which it will be necessary to remove, limiting the crop to about one dozen clusters, or not over five pounds. These bearing shoots will require no tying-in; they may be permitted to interlace and grow unchecked, unless a few show a strong tendency to rampancy, when a little wholesome correction will be advisable; there is, however, little probability that this will be required, unless the vine be over-stimulated; and al-

though this third season (from the fact that the plant is young, vigorous, extending its roots in new soil, and carrying a very moderate crop of fruit) an excessive wood growth is more likely to take place than subsequently, we have, on the other hand, only alternate slats of the trellis occupied, and consequently plenty of room to indulge the vine in this particular. From the short spur a shoot is trained upright, to grow through the season unchecked, and form a fruiting cane for the next year.—From a bud near the base of this spur, or on the trunk of the vine near its centre, a third shoot is allowed to make about six leaves, and then stopped and kept short; this is to form a spur, from which next season a cane is to be grown, to fruit the year following.

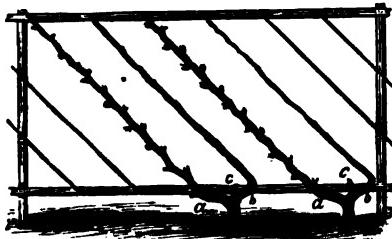


FIG. 51.—*Diagonal Training.*

At the autumn pruning, cut in all the shoots on the fruiting cane (both those which have borne fruit, and those which have not) to two buds; prune the upright cane to eight feet, and train it to the intermediate diagonals that have not yet been occupied, and cut in the short cane to two buds. Our vine now presents the appearance in the diagram, having two bearing canes, A and B, and a short spur, C; the following season it can bear a full crop, thirty-two clusters as a minimum, that is, one to each shoot; those from the spurs of the old cane A, can, no doubt, bear two bunches each without injury to the vine, increasing the crop to forty-eight clusters; this, however, must be left to the judgment of the cultivator.

We have now to consider how to renew one-half the vine annually, so that it can be kept always vigorous and ever young.

This second fruiting season, we train upwards from the spur C a shoot, which is allowed to grow unchecked, and form a cane to supply the place of A, which is to be cut out at the Fall pruning. From a bud conveniently situated near the centre of the vine, we grow also a short cane, to form a spur for the next year. As to stopping and pinching in the bearing shoots this season and subsequently, we are no friend to it; it gives the vine a shock detrimental to its well being; a few that give decided evidence of outstripping their neighbors will require it early in the season; and although the bearing shoots may extend some feet and interlace in all directions, there is little cause to fear that the foliage will become too dense; grapes are ripened by the action of the sun on the leaves, not on themselves; moreover, the upright cane, growing freely, will probably appropriate the superabundant vigor of the vine, and check excessive growth elsewhere. If the soil of the vineyard is too rich, or if, from the habit of the vine, or any other reason, we have to anticipate an exuberant growth of foliage, the fruiting cane may be twisted five or six times round its diagonal, and thus checked; this is an excellent plan, if the trellises run north and south, so that both sides are exposed to the action of the sun; the shoots thus radiate from a common centre in all directions, and produce an open growth very favorable for the admission of air and light. But continual summer pruning is against nature, and ought not to be indulged in.

At the pruning this autumn, we cut out the cane A entirely, train the new cane from the spur C in its place, and cut in the laterals on B; we also cut in the short cane to two buds; thus we have our vine exactly where it was last autumn, except that the relative positions of the spur-bearing and budded canes are reversed. These operations can be followed year after year,

keeping all parts of the vine in the same age and habit of growth, subjecting it to few unhealthy shocks by close pruning, pinching in, dwarfing, or otherwise; and, accidents apart, securing abundance of healthy foliage, a natural consequence of which is ripe fruit. This method has also the advantage that a considerable length of cane is obtained without increasing the length of the trellis, so that all parts of the vine are kept within easy reach. The trellises are, moreover, of cheap construction, and easily repaired. It will be observed that a triangle, containing 18 square feet, is left at each end of the trellis; this may be filled to advantage by an extra branch from the nearest vine, bent into bow shape, and renewed when necessary.

The amount of soil allowed each vine is twenty-seven or thirty-two square feet of surface, according as the distance between the cordons is twenty inches or two feet; the latter distance will no doubt be found most favorable, and this will allow 1,250 vines to the acre, together with necessary roads, lost space, &c. Now, if we can depend upon fifteen pounds of fruit from each vine, a quantity by no means large in suitable conditions, the total product per acre may be easily calculated in fruit or wine.

With regard to the manuring of vineyard, much has been written, and it appears to be generally conceded that nitrogenous manures, and all those exciting a rank growth, are to be avoided. The inorganic substances most abundant in all parts of the vine are potassa, lime, and phosphoric acid; and as these are indispensable to the healthy growth of the plant, the soil must not be allowed to become deficient in them. The quantity of manure required by a vineyard is wholly dependent on the disposal made of its products; if the fruit is manufactured into wine, and leaves, cuttings, and the residuum from the press are returned to the soil of the vineyard, very little manure will be required for a long period; for 500 gallons of must, the average yield per acre, contains less than eight pounds of potassa, and this is everything

of importance that is removed from the soil. If the fruit is sold as such, large amounts of valuable mineral salts are removed in the skins and seeds, and must be restored by annual manuring. The best material for this purpose appears to be hardwood ashes, or the ashes of forest leaves, wheat straw, and especially that of bean straw and corn stalks; all of which substances abound in potassa, and supply phosphoric acid, lime, magnesia, &c., in large quantities. The leaves cast annually by the vines, and worked into the soil, will probably furnish sufficient humus. Where summer pruning is practised, the trimmings are immediately hoed in, and decay rapidly; but in the method under discussion, no wood is removed until fully ripe; and as a part of this is two years old, and would decay very slowly if turned under the soil, it is better to burn the trimmings, and return their ashes to the vineyard.

In conclusion, we shall state that this system exists but in theory. A method of vine-dressing was desired which should allow the plant to follow its natural habits as closely as possible, with the attainment of certain conditions important to the cultivator; and a result of the examination of many systems, both old and new, is the paper now presented. We publish it with the hope that some lover of horticulture may be induced to assist us in reducing theory to practice; if any such there be, we wish them abundant success. We believe that, by patient experiment, some method of culture might be devised, by which the health of the vines will be ensured, without that lavish expenditure of nauseous drugs now so often found necessary. We do not by any means insist on training the fruiting canes at an angle of 45°, or at a distance of two feet; these are simply the figures we have adopted in our own experiments; but we are of opinion that that method will be found most successful, in which summer pinching and pruning is reduced to the minimum, or wholly neglected.

ABBOT PEAR.

THIS is one of the handsome appearing pears that, although of native origin and qualities of merit, has been comparatively overlooked by introduction of foreign sorts.

Fruit medium, oblong, obovate, bright clear yellow, with a rich, clear, red cheek in some; dotted; the dots in sun being dark vermillion red; stem long, slender;



FIG. 52.—*Abbot Pear.*

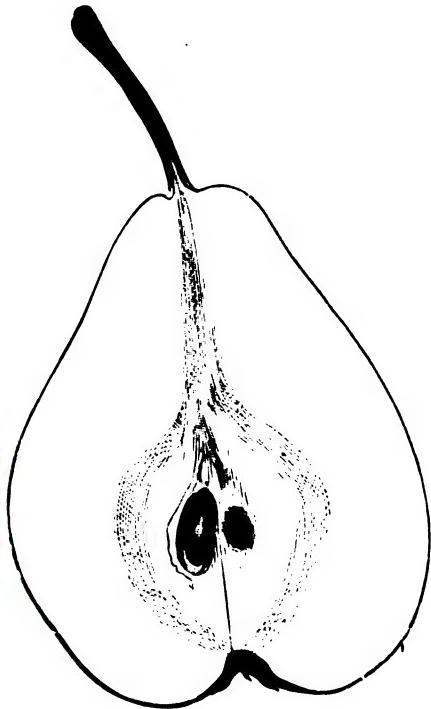


FIG. 53.—*Section.*

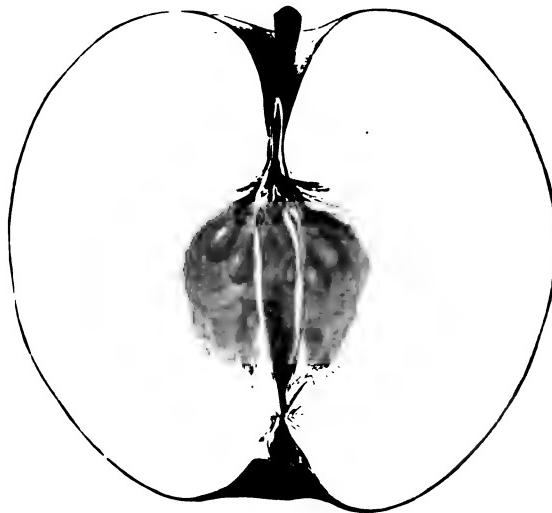
set without cavity; basin, medium depth, coarse granules next the core; sweet, regular; calyx, open, with long, reflexed segments; flesh white, granular, melting; juicy; core medium; seeds large, abundant, light brown. Early in October.

MASTEN'S SEEDLING APPLE.

BY C. R. C. MASTEN.

THIS apple originated upon the farm formerly owned by my father, but now in my possession; in the town of Pleasant Valley, Dutchess County, N. Y. The tree is vigorous, with a broad-spreading, well-formed head. The shoots are stout, leaves of me-

dium size, and blossoms of a beautiful pink color. It is a very desirable apple for the market, as it always is unusually fair, having a peculiar oily skin, looking as if rubbed with a towel, and is agreeable for the dessert or for cooking purposes.

FIG. 54.—*Masten Seedling Apple.*

The fruit very much resembles the white Winter Pearmain in shape, being medium, oblong, conic.

Skin oily smooth, greenish or pale yellow, with a faint blush or warm cheek, thickly sprinkled with minute light blue and brown spots.

Stalk about an inch long, inserted in a narrow, rather deep and pretty regular triangular cavity.

Calyx closed, and set in a basin of moderate depth, which sometimes is a little irregular.

Flesh greenish white, moderately juicy, tender, with a mild, pleasant, and slightly vinous flavor.

Good from December to April.

Washington Hollow, N. Y.

CLEFT-GRAFTING.

WITH SPECIAL REFERENCE TO TREES AND STOCKS OF THE APPLE AND PEAR.

BY D. S. D.

Every recurring spring brings to my ears the same enquiry, "Who shall I get to do a little grafting for me?" My reply is, interrogatively, Why don't you do it yourself? This second question may be of sufficient pertinence to bear substantially, a repetition in the HORTICULTURIST; and it may therefore be well to ask, why such an interesting recreation is ever neglected by any intelligent pomologist? No more permanent gratification, in the way of fruit growing, can be expected—or, perhaps, imagined—than that of watching, from time to time, the coalescent growth of an apple or pear scion, as it gradually identifies itself with its foster-parent; until, and even after, its due time of fruitage. Emphatically is this true if Nature is thus set to work by one's own individual act;—a re-creation truly, in its common acceptation, almost a *re-creation*, in fact!

There seems to be more or less mystery overhanging this whole subject, which is entirely imaginary, at least so far as this department of cleft-grafting is concerned. The manual process is surely a plain one; the proper reason is restricted within no narrow bounds; the requisite implements are few and handy; the labor is too slight to be called labor; and, above all, the inducements and the rewards are not excelled in any department of horticulture; while the conditions of success are easy enough for all.

Grafts and grafting wax are matters of merchandise, easily procurable by purchase, and transmissible through mail bags. By so much are we ahead of our forefathers. A brief order, made out by the always-ready assistance of pen, paper, ink, envelope, and stamp, accomplishes the wonder, in this case, as in many others, of bringing to our hands whatever we want, and mak-

ing the distant nurseryman as near to us as the nearest post-office. (Grafting materials, cuttings, seeds, vines, potatoes, and so on;—we can buy them all at the Post-office!)

This then, the only slight trouble in the case being disposed of, we choose a pleasant morning; take a saw in one hand, and, if needed, a ladder in the other; with knife and hammer in one pocket, and wax, wedge, and scions in the other, and proceed to our diversion. The selected stock or limb is sawed off, the stump split down an inch or more, the wedge inserted, the tapered graft or two placed in position, the wax applied to cover up all exposures, and—the thing is done. After a moment's gratifying survey of the "job," we attach a label, and confidently leave the object of our miscegenation in the care of a kind Providence.

Even with such general guidance as the above, no one need ever fail of success, after a few trials; but, to save unnecessary expense of time and patience, let us be more explicit. Any stout two-bladed 'jack-knife,' (the large blade for cleaving the stock, and the small one for shaping the taper of the graft,) and a small wedge of hard wood or metal, will answer; but a grafting-chisel with wedge attached, is better. (This, too, can be obtained at the Post Office.) Grafting wax can be easily made, if it is not desirable to purchase it, by the following recipes:—4 lbs. rosin, 2 lbs. tallow, and 1 lb. beeswax melted together and well incorporated; or the proportion of rosin may be greater, if lard be used instead of tallow; or linseed oil may be used in the proportion of 1 pint to 3 lbs. rosin and 1 of beeswax. The preparation should not be too sparingly used, (as is sometimes the case,) but every part that

needs it should be so well covered that it will be sure to last at least through the whole season.

One essential point in the operation of grafting is to be careful that the inner barks of the stock and scion shall meet at their edges. Practice will soon make this easy of accomplishment; but without practice, it can be made sure, by giving a slight inward inclination to the top of the scion, which will bring the edges exactly together somewhere in the desired line of meeting.

The wedge-shaped end of the scion should be a trifle thinner on one of its bark-sides, which should be set inwards towards the heart of the stock, in order that the outer and thicker side may receive the greater pressure when the wedge is removed.

Sometimes it may be necessary to shield a graft from drying wind, or heating sun, which can be done by tying around it a piece of thick, or oiled, paper.

I have cleft-grafted apple trees successfully, at intervals from the 27th of March to the 25th of July,—a space of nearly four months. How much farther, outside of these limits, the practice may be carried, I cannot say; but this distance of dates is sufficiently wide to remove an excuse for neglect which is often offered, in other matters which require more precise and timely action.

Some years since, when my knowledge of apples was somewhat more limited, I purchased a number of trees of a nurseryman, leaving the selection, in part, to him. Among them was a *Gloria Mundi*. As soon as I learned its worthlessness for my use I regrafted the whole of it, at different times, with choice varieties, until it became a propagating-tree, with sixteen different kinds upon it. These it was a great pleasure to see growing, and blossoming and

fruiting; and it was an additional gratification to have the various grafts ready, at proper times, for my own use, and as gifts to neighbors and amateur friends.

Amputation and cleft-grafting may be recommended for the treatment of pear-blight, in some cases,—perhaps in all,—with timely attention. The topmost limb of a twenty-year-old pear tree, which had been struck with the blight, (atmospherically?) were sawed off some few inches below the marks of discoloration on the bark, and the exposed surfaces covered with grafting wax, as a protection against injury from the elements. In the following spring these were again shortened by being sawed off a few inches below the original cut, and then grafted with different desirable varieties;—all of which have done perfectly well.

The mysterious influence of stock upon scion in promoting early fruit-bearing is also an interesting result of grafting. A few years ago, in order to test the identity of the Boston Pear, *so-called*, with the Pinneo, I procured a young tree from Boston, and the cuttings which I took from it, and inserted in the limbs of a thrifty old English Jargonne, produced fruit the next year; while the original young tree did not even blossom until seven years later. The tardy Dix, too, I have known to commence bearing, on a young graft, the first year after insertion. And so of apples,—some of the slowly-maturing kinds have been hurried into early fruitfulness by this method of double-working. Seedlings, also, may be “put through a course of sprouts,” “ahead of time,” by the same process.

It may be that you knew all about these things before. Perhaps your young horticultural friend did not—for him this is written.

NOTES ON THE FEBRUARY NUMBER.

FIRE ON THE HEARTH.—Ah! how the reading of this brings memories of the broad old kitchen fire-place of my early home; where parents, sisters, and brothers gathered, of a cold, frosty evening in autumn, chatting and laughing, the table loaded with cakes, and various ripe and ruddy fruits from the orchard.

How little Americans, as a people, study the after-influence of a pleasant home for the young. While grasping for money and outward show, the softening, chastening influences of a cheerful home-circle are too often forgotten and neglected.

There is one other association belonging to a home that gives pleasant thoughts to the occupants, as well as to the passing world: it is the opening and using all the house. Too many, especially in the country, shut up their best and most pleasant rooms, to be opened "only for company," and content themselves with rooms that have but a side-view, or, perhaps, only a lookout on to the barn, &c.

I never drive past a house, where the blinds show evidence of the occupants contenting themselves with the working but, necessary part, without at mentally once saying to myself—no comfort there; all for money and show on company days. Nor do I, on the other hand, ever pass a house where the windows give evidence of its occupants enjoying all the house, and especially its most sightly rooms, without involuntarily reining my horse up to the gate that I may make one more pleasant acquaintance in life.

REMODELING OLD BUILDINGS & GROUNDS.—This is one of the plain, practical articles from which we may learn how much of improved home-comfortableness (I coin the word) and tasty effects may be had from a judicious studying of arrangement. It is not always that costly structures or perfectly prepared gravel or paved walks, give the most enjoyment; and too many pass

on through life with the same old tumble-down gate and rude, unattractive cornices and roofs, when with the use of a few hundred dollars, the whole appearance could be changed to attract and please not only themselves and their families, but every passer-by.

DISCREPANCIES OF THE GRAPE CULTURE.—Another of the records in Horticulture, illustrative of the fallacy of crying *Eureka* because our experiments in cultivation become a success. Like the talented and venerable writer, I have been laboring years in study of the vine, its habits, diseases, &c., and have now less confidence in my knowledge than I had ten years ago. Reasoning from observation, I should conclude that vines of all the strong, rank-growing sorts would succeed admirably in situations thoroughly drained from stagnant water, and yet where the roots can obtain pure water by stretching down two to three feet. Capillary attraction must also serve to keep the soil always moist to within one or two inches of the surface. All such situations in nature's own planting, or that of the earlier settlers at the West, who planted pears and grapes, &c., by running streams and rivers, exhibit results of healthy and vigorous growth, free from diseases, analogous to the like when grown and pruned according to the high artificial, empirical practice of the "gardener to the Honorable Mr. Buncombe." In such locations as the sides of a ditch, river, &c., I should look for healthy plants, but in wet and cloudy seasons a want of flavor and sweetness in the fruit.

I suggest the application of guano to the muck soil, as, perhaps, a requisite wanted for the Delaware.

FLOWER POTS.—Practical comments, with hints illustrative, but as all reforms are not improvements, so it is doubtful whether a transfer from porous pots to hard-baked or glazed ones may be an ad-

vancement. The condition of the house, its temperature, &c., &c., all should be regarded by the intelligent propagator, and if carefully and common-sensically regarded, I think plants will continue to be grown—as heretofore—in porous, soft baked, as well as hard glazed pots.

GRAPE IN 1865.—Thanks for this record. In an extensive correspondence, I have been getting many such records, and it is singular how the whole sums up. Query—Have not all the varieties allied to Isabella, Adirondack, Isabella, &c., more disposition to mildew, in both wood and fruit, than those sprung more directly from the Catawba?

ESTHETICS IN RURAL LIFE.—A humorous comment upon the practice of many a would be horticulturist.

GARDENS AND PARKS OF GERMANY.—Every line replete with interesting descriptive record.

THE NEW ERA IN GRAPE CULTURE.—Mr. Husman has here given us statistical record of profits in grape growing, for which, as one of the readers of the *Horticulturist*, he has my thanks. Nevertheless, I cannot concede, as yet, that each and every grape grower may realize annually \$6,000 per acre from sale of his grapes and wine produced therefrom.

That Mr. Husman has done so I do not doubt, as he so states it, but it won't answer as a guide-post or prospective view to the grape growers of the States, unless they expect disappointment.

If we take Mr. Husman's 500 Concord vines, or, as he says, four-tenths of an acre, and estimate 160 gallons of wine, (which is all a ton will make of pure juice), to the ton of grapes, we have, as a result, over six tons, or say, fourteen tons to an acre. The balance of the figuring is about the same, and while Mr. Husman may lay claim to that amount of product, I doubt if any other vineyard in the States can do so. Missouri is, undoubtedly, a fine fruit State, and I rejoice at this evidence of her productiveness.

Mr. Husman kindly takes me to task, and hints that I am fault-finding in my comments on one of his previous articles. I beg here to assure the gentleman that such an idea as fault-finding never has yet entered my head in commenting on his or other articles. I am a plain old-fogey observer, and my notes are written rather to draw out ideas and practical teachings from their authors, than from any vain imaginings of my capacity to criticise. If I take exceptions, it is not always that I do not myself believe, but that the conclusions or statistics, as the case may be, are so much at variance with generally received opinions as to admit of more light being shed on the subject.

Thanks, Mr. H., for telling how to make and grow cuttings; but in case of varieties like the Delaware, Norton's, &c., that do not strike readily in the open ground, have you ever tried laying the bundles in the ground, on approach of spring, with the lower or butt ends uppermost, and within one- or two inches of the surface—leaving them in that position until they have callused, and then planting them out. One grower of my acquaintance practises in that manner and succeeds.

Again, if I mistake not, Mr. Griffith, of North East, Pa.—a gentleman of sound good sense, and possessor of about sixty acres of vineyard—practises growing vines from single buds only, in the open ground, covering with about half an inch of soil and some three inches of fine mulch. Perhaps in a future number he will tell us his way of doing.

Thanks, Mr. Husman, for your invitation to come and see how you prune. Should I do so, it would not be the first time I have enjoyed your genial hospitality, eaten of your grapes, and drank of your wine.

SAP IN TREES AND LEAVES.—Two articles of vegetable physiology that it is well for all to read. They contain no new truths, but the novice in horticultural pursuits should study them.

REVIEW.

REPORT ON GRAPES IN MISSOURI DURING THE SUMMER OF 1865.

BY GEORGE HUSMANN.

THIS was one of the most trying seasons for grapes here, the summer being excessively wet, and but few varieties escaped altogether. The prospects for a most abundant crop have, perhaps, never been so good than they were about the middle of July. The grapes had set finely, and developed rapidly. But excessive rains brought on mildew, rot, and all the evils to which grapes are subject, and but a few of the most healthy varieties escaped altogether. The following observations have been mostly taken on my own ground, and I will let the grapes follow in alphabetical order.

1. *Alicanté*.—Foreign; mildew on leaf and fruit; rotted badly; no fruit ripened.

2. *Allen's Hybrid*.—Mildew on leaf and fruit; some rot; ripened imperfectly about half a crop.

3. *Anna*.—Mildewed badly; subject to all kinds of diseases; worthless with me.

4. *Alvey*.—Some mildew, no rot; ripened its fruit very well; promising.

5. *Arkansas*.—Entirely healthy; ripened a fine crop of fruit; valuable for red wine.

6. *Arrott*.—Subject to leaf blight; no rot; ripened a tolerable crop of fruit.

7. *Brinkle*.—Entirely worthless; poor bearer; subject to every disease.

8. *Baxter*.—Some leaf blight, but ripened a good crop of rather indifferent fruit, which may make a pretty good red wine.

9. *Blood's Black*.—Entirely healthy; abundant bearer of very early fruit of tolerable good quality; valuable as an early market grape.

10. *Brown*.—Somewhat better than Isabella; subject to leaf blight; no rot.

11. *Concord*.—Some rot in some locations, but ripened an immense crop of very good fruit; foliage entirely free from any disease.

12. *Clara*.—Some mildew on the leaves, but ripened a good crop of fruit, of excellent quality.

13. *Creveling*.—Tolerably healthy; fruit of very good quality, bunch rather loose; promises well.

14. *Cassady*.—Mildew and leaf blight, no rot; fruit ripened imperfectly.

15. *Clinton*.—Healthy, and made a good crop.

16. *Cunningham*.—Healthy; ripened a very full crop of fruit, which made a very good wine, and a good deal of it; valuable for the West, *in some soils*, as a wine grape of high character.

17. *Cape*.—Badly affected with leaf blight no rot, ripened its fruit imperfectly.

18. *Cynthiana*.—Perfectly healthy; ripened a fine crop of fruit; very valuable as a grape for red wine.

19. *Catawba*.—Affected by all diseases, mildew, rot, leaf blight; almost a failure; should be eradicated, and Concord substituted in its place.

20. *Canby's August*.—Set its fruit badly, and ripened it poorly; of no value here.

21. *Cuyahoga*.—Subject to leaf blight, mildew, &c.; a very insipid fruit; worthless.

22. *Delaware*.—A very full crop, which, in consequence of leaf blight, dwindled down to a very small one; no rot, but the fruit ripened badly; a fine grape, but does not suit every soil, and has been much overpraised, as it evidently is only adapted to certain localities.

23. *Diana*.—Mildewed badly, and is evidently too much like its parent to be of much value here.

24. *Dracut Amber*.—Healthy, but very foxy; poor quality; very early.

25. *Devereaux*.—The leaf mildewed badly, and the fruit was imperfect.

26. *Ewing's Seedling*.—A tolerably good grape, of the Isabella class, but better in quality; somewhat subject to leaf blight.

27. *Northern Muscadine*.—Healthy, hardy early, and productive, but too foxy.

28. *Edinburgh*.—Mildews badly; of no value here.
29. *Garrigues*.—A very good Isabella, subject to leaf blight; not desirable.
30. *Garbers Albino*.—Somewhat subject to leaf blight; a poor bearer; of good quality.
31. *Hartford Prolific*.—Healthy, hardy, and very productive; of fair quality; a very valuable early market grape.
32. *Herbemont*.—Healthy, but little subject to any disease, and is, in most of our locations, a very abundant bearer of excellent fruit; a very heavy crop, well ripened, but rather late.
33. *Iona*.—Rotted more than any other grape I had; of twenty bunches, I did not save as many berries; must do better in future, or it will be of no value here.
34. *Isabella*.—Tolerably healthy; but the fruit ripened later than Hartford Prolific, and was very insipid.
35. *Isabella*.—Subject to leaf blight and rot; of no value here.
36. *Kingscragg*.—Mildewed badly, and lost all its leaves; poor quality.
37. *Lenoir*.—Healthy, and of good quality, but poor bearer.
38. *Lake*.—Leaf blighted badly, and the fruit was of poor quality.
39. *Louisiana*.—Healthy, and makes a superior wine, but seems to be a shy bearer.
40. *Martha*.—Of all the new grapes, this promises best here; healthy, hardy, a good bearer, and of very good quality; a white Concord, but sweeter than its parent.
41. *Mary Ana*.—Healthy, very early, and very productive, but of inferior quality; profitable for very early marketing.
42. *Marion Port*.—Of the same character as Hyde's Eliza; of no value when better varieties can be had.
43. *Norton's Virginia*.—Good in every respect; an immense crop.
44. *North Carolina Seedling*.—Foliage healthy, some rot on fruit, but ripened a very heavy crop of early, showy fruit, of good quality; valuable as an early market grape.
45. *North America*.—Very early, and of good quality, but very small bunches; healthy.
46. *Oporto*.—Of no value whatever; a complete humbug.
47. *Ontario*.—Resembles Union Village; some leaf blight; fruit very large, but did not ripen well.
48. *Preschel's Mammoth*.—Healthy in fruit and foliage; very large fruit; showy; tolerable quality.
49. *Perkins*.—Healthy, hardy, productive, and early; a good early market grape, but very foxy.
50. *Rebecca*.—Leaf blighted badly; fruit tolerably good, but a poor grower and bearer.
51. *Rosine of Smyrna*.—Leaf blight and rot; fruit ripened imperfectly, but is very handsome.
52. *Rulander*.—Very healthy; makes a superior wine; rather poor bearer.
53. *Rogers' Hybrid, No. 1*.—Healthy, fine in every respect, productive, valuable here.
54. *Rogers' Hybrid, No. 6*.—Healthy, very good.
55. *Rogers' Hybrid, No. 15*.—Subject to leaf blight and rot; rather indifferent quality.
56. *Terre Promise*.—Leaf blight and rot ruined the fruit entirely.
57. *Taylor*.—Healthy; produced a good crop; will make a fine white wine.
58. *To Kalon*.—Very unhealthy; of little value.
59. *Union Village*.—Leaf blighted, and ripened the fruit imperfectly.

When we come to sum up this season's experience, we find that the old standard varieties, Norton's Virginia, Concord, Herbemont, and Hartford Prolific, have again proven that they can be depended upon here. The Clinton may, perhaps, be included, but I would rather plant the Concord as a wine grape, if I had my choice. I think the wine is more agreeable, and it will turn out more to the acre than the Clinton. Among those promising well for wine, I will name the Alvey, Arkansas, Creveling, Canning,

ham, Cynthiana, Louisiana, Martha, Ruelander, Taylor. Among those promising well for table and market, Blood's Black, North Carolina Seedling, Perkins, Rogers' Hybrid Nos. 1 and 6. These are all healthy enough to be depended upon here.

This, Messrs. Editors, is *Missouri experience*. I do not pretend to say that it could serve as a guide for other localities. I do not believe that one grape will do for the whole country, from Maine to California, as some claim for the Delaware; nor do I set up to be an authority. This cheap glory I leave to some other gentlemen, who pretend to

be the only good and rational propagators, as well as guides in grape growing. I would caution again and again, and I think that caution can not be repeated too often, against following blindly in the wake of professional men, and planting a certain grape, for instance, in Illinois, because it is successful in Pennsylvania. Let every one try for himself, and accept counsel from others, even the most reliable men, *only* with due allowance for difference of climate and soil.

Hermann, Dec. 20.

GARDENS AND PARKS OF GERMANY.—Concluded.

And now a word about rural Germany. A German rural landscape, finds no counterpart in our own land.

Fences are nowhere to be seen, and hedges only as ornaments. No houses, neither barns, are scattered along the roadsides.

The tillers of the land live together in little hamlets. Their houses are generally small, and one-storied, built of stone and a coarse mortar made of mud and straw. Most of them are whitewashed, and the roofs are steep and covered with red tiles. These little houses are built close together, having barns attached. They have no door-yards but front directly upon the paved street. A German village presents few attractions; there is nothing rural or pleasing about one. Hardly a spear of grass or a shrub grows within its limits, and none reside there except the peasants, a parish minister, a shoemaker, and a half dozen more such worthies. The villages are for the peasants, the cities are for the other classes. Such little hamlets seen from a distance, look charming and picturesque, situated right in the midst of green fields, and often upon some little rushing watercourse, the bright red roofs and little church spire, rising up from among a perfect grove of fruit and nut trees; but as you enter the place the charm vanishes. The absence of all fences and hedges gives to the country a more expansive appearance; but you seldom see large fields of any one crop. The land is tilled by so many small proprietors, that the whole surface of the country looks like a great agricultural Mosaic, made up of numberless little patches of various staples. Here a little strip of wheat, there a square of potatoes, next a strip of beet, and another strip of wheat, and so on ad infinitum. The highways are irreproachable, just as hard and smooth as bowling alleys. They are all Macadamized and very broad, perfectly drained, and always in good condition. I never yet saw a highway in Germany which would not answer for a trotting course. They are all built and cared for by the government, and hence their excellence. They are always lined with trees, sometimes merely ornamental, but generally combining the useful with the beautiful. One of the most delightful drives that I ever took, was from the old historical town of Jena to Wiemer. It was about fourteen miles over a picturesque and undulating country, and it was the roadsides which most of all attracted my attention. In some places they were adorned with trim evergreen hedges; in other with close-

ly cut dense foliated beeches. These were quite small and shrublike, and cut out into various shapes. Some were pyramidal, some round, some oval, some curved in from a broad base towards the top, and others from a broad top towards the base. Some were so cut as to represent a series of rings, others a series of pyramids, and no two trees looked alike. It is wonderful how much in this way can be done with the beech, and the Germans seem very fond of using it for ornamental purposes. For miles along this road were cherry and pear trees, and alternating with these were beautiful mountain ashes, laden with clusters of brilliant berries. These added much to the beauty of the scene, but I do not think that ornament was their only purpose, for they did good service in attracting the numerous birds from the cherries. And would you see a charming landscape, not of grandeur but of quiet beauty, come to Jena. It lies most picturesquely upon the little Saale, which winds through the green fertile valley like a silver band, while on its borders flourish clustering willows and aspens; and ever and anon the foliage broadens out to form beautiful groves, in which the mighty horse chestnut and fragrant linden predominate. Around this landscape in the valley, is set a girdle of hills varied and attractive. At their foot and up their more sloping sides, are green vineyards and fruitful orchards, and further up on to the summit, are in some cases, dense forests of evergreens; or again, bare stratas of rock. And standing upon one of these summits, you see the valley of the Saale stretching out for miles before you, rich in vegetation and dotted all over with little red-tiled hamlets nestling in among the trees. Right below lies the ancient city, with her old towers and winding streets, rich in historic associations. Beyond, towards the northwest, stretches out the famous battle field, and far in the distance rises the western boundary of the Thuringian forest, while here and there on the surrounding hill-tops, you catch a glimpse of some old castle ruin. Here a lone tower, there a solitary

crumbling wall, alone remaining to tell of the many strongholds which centuries ago protected this fair valley against the fierce inroads of heathendom. A German autumnal forest cannot compare in beauty with those which crown our own hillside, for the glowing varied splendor of the maple is wanting. But I never beheld a more beautiful landscape than that which spreads out around, before and above you, as you stand on a bright October afternoon, on the grand terrace above the ancient Castle of Hiedelburg. Right below lie the mighty towers and ivy-crowned battlements; the frowning ramparts and grass grown courts of the proud old stronghold of the Electors and Count Palatines of the once mighty Rhine Palatinate crowning with its vast ruins the projecting forehead of the Jetten bühl.

Just below stretches the town long and narrow, with red-tiled roofs and tapering spires. In the valley the green Neckar, smoothest of rivers, glides noiselessly by. On the right, green banks come down to meet the stream, while up the hill-side, the vineyards are yellow, on the southern slopes. Farther up all around you, the oaks and chestnuts have put on their rich chocolate and amberdyed liveries, which form a pleasant contrast to the dark evergreen foliage which crown the summits of Odenwald. To the westward opens the broad, fair plain of the Rhine, a blooming garden, through which the Neckar winds its course like a bow of steel, until your eye rests upon the lofty spires of Manheim, and a line of white vapor extending along towards the north indicates to you that there runs the mighty Rhine, while far beyond, the blue Alsation hills stretch away in the dim distance, joining the clear blue sky, which curtains in the scenes.

"Oh, could I wish a fairy dream,
Of fragrance, light and sunny skies;
There on the Neckar's winding stream,
Famed Hiedelberg, I most should prize;
From thy old mouldering castle wall,
Thou fair Alhambra of the Rhine;
Behold that vale surpassing all,
And thousand greetings should be thine."

GLEANINGS.—*Continued.*

IV.

To the lover of nature, the trees, in casting off their summer garments of rich leaves, only reveal to him fresh objects of beauty and delightful study in the marvellous construction of their noble skeletons; in the exquisite tracery produced by the intermingling of myriad branches and delicate twigs; in the lavish variety of character stamped upon each separate species of tree, and upon each individual of that species. "I do not propose," says Ruskin, in his "*Modern Painters*,"—"to examine the characteristics of each tree; it will be enough to observe the laws common to all. First, then, neither the stem nor the boughs of an oak, elm, ash, hazel, willow, birch, beech, poplar, chestnut, pine, mulberry, olive, ilex, carob, or whatever the tree may be, *taper*, except where they fork. Wherever a stem sends off a branch, or a branch a lesser bough, or a lesser bough a bud, the stem or the branch is, on the instant, less in diameter by the exact quantity of the branch or the bough they have sent off, and they remain of the same diameter; or, if there be any change, rather increase than diminish, until they send off another branch or bough. This law is imperative, and without exception. No bough, or stem, or twig, ever tapering or becoming narrower towards its extremity by a hair's breadth, save where it parts with some portion of its substance at a fork or bud, so that if all the twigs and sprays at the top and sides of the tree, which are, and have been, could be united without loss of space, they would form a round log of at least the diameter of the trunk from which they sprung.

But as the trunks of most trees send off twigs and sprays of light under foliage, of which every individual fibre takes precisely its own thickness of wood from the parent stem, and as many of these drop off, leaving nothing but a small excrescence to record their existence, there is frequently a slight and delicate appearance of tapering caused

in the trunk itself; while the same operation takes place much more extensively in the branches; it being natural to almost all trees to send out from their young limbs more wood than they can support; which, as the stem increases, gets contracted at the points of insertion, so as to check the flow of the sap, and then dies and drops off, leaving all along the bough, first on one side and then on another, a series of small excrescences sufficient to account for a degree of tapering, which is yet so very slight, that if we select a portion of a branch with no real fork, or living bough to divide it, or diminish it, the tapering is scarcely to be detected by the eye; and if we select a portion without such evidences of past ramification, there will be found none whatsoever.

But nature takes great pains to conceal this uniformity in her boughs. They are perpetually parting with little sprays here and there, which steal away their substance cautiously, and where the eye does not perceive the theft until a little way above it feels the loss; and in the upper parts of the tree, the ramifications take place so constantly and delicately, that the effect upon the eye is precisely the same as if the boughs actually tapered, except here and there where some avaricious one, greedy of substance, runs on for two or three yards without parting with anything, and becomes ungraceful in so doing."

V.

TAKE one of those little flowers which cover all the pastures, and which everybody knows by the name of daisy. Look at it well; for I am sure you would not have guessed, by its appearance, that this flower, which is so small and delicate, is really composed of between two and three hundred flowers, all of them perfect; that is, having each its corolla, stamens, pistil, and fruit. Every one of those leaves which are white above and red underneath, and

form a kind of crown round the flower, appearing to be nothing more than little petals, are in reality so many true flowers; and every one of these tiny yellow things also, which you see in the centre, and which at first you have, perhaps, taken for nothing but stamens, are real flowers.

If you were accustomed to botanical dissections, and were armed with a good glass, and plenty of patience, it would be easy to convince you of this. But you may at least pull out one of the white leaves from the flower; you will at first think it is flat from one end to the other; but look carefully at the end by which it was fastened to the flower, and you will see that this end is not flat, but round and hollow, in form of a tube, and that a little thread, ending in two horns, issues from the tube; this thread is the forked style of the flower, which, as you now see, is flat only at the top.

Next look at those yellow things in the middle of the flower, and which, as I have

told you, are all so many flowers. If the flower be sufficiently advanced, you will see several of them open in the middle, and even cut into several parts. These are monopetalous corollas, which expand; and a glass will easily discover in them the pistil, and even the anthers with which it is surrounded. Commonly the yellow florets towards the centre are still surrounded and closed. These, however, are flowers like the others, but not yet open, for they expand successively from the edge inwards. This is enough to show you by the eye, the possibility that all these small affairs, both white and yellow, may be so many distinct flowers; and this is a constant fact. You perceive, nevertheless, that all these little flowers are pressed and enclosed in a calyx which is common to them all, and which is that of the daisy. In considering, then, the whole daisy as one flower, we give it a very significant name when we call it a composite flower.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. WOODWARD, 37 Park Row, New York.

IMPROVE YOUR PLACE.—The true lover of rural life is known partly by his disposition to improve or change the present condition of his place. As time passes, events occur, new plants come up, etc., changes must be made, new arrangements formed, or the whole becomes confused. He who truly loves his rural home, and enjoys the growth of tree and plant, will be found constantly making changes, while the show amateur leaves the gardener to keep all clean and tidy, because his place is *finished*. Heaven save such a man, and send him back again to his "cotton and sugar trade," for he has no business in the country.

OSAGE ORANGE AS AN ORNAMENTAL TREE.—In ornamental planting, the spreading, rather drooping, elegant habit of the Osage Orange, together with its rich glossy foliage, seems to have been, in a great measure, overlooked. As a tree of second-class station, it has few superiors as regards beauty, and especially when laden with its fruit.

Three or five Osage Orange trees, planted as posts for an arbor, and, as they grow, having their tops intertwined, form one of the cheapest, and yet effective, and satisfactory of summer arbors.

In advertisement "Kitchen Garden Seeds," of Messrs. McElwain Bros., Springfield, Mass., in our March number, some of the type slipped out of the form on being put upon the press. It should read 20 varieties for \$1.00. We have no doubt that whoever sends them the dollar will get their moneys worth and more too.

STURTEVANT PEACH.—To lovers and growers of the peach, no one sort deserves more attention, and has received so little as the Sturtevant. It is much like Bergen's Yellow in appearance, a trifle larger, smaller pit, equally sweet—a hardy, vigorous, growing tree, and a good producer.

THE MAHONIA AS AN ORNAMENTAL HEDGE.—Among all our hardy shrub evergreens north of the latitudes of Philadelphia, the mahonia makes one of the best and most ornamental of low boundary hedges. The plant is nearest to the holly of the old country of any plant that is hardy; it is easy of cultivation, bears the shears, is very ornamental when in flower, and afterwards in berry or fruit.

There are several varieties of it, differing only in size and form of the leaf, but in forming a hedge they may be worked in without reference to their botanical difference. The plants can be moved in autumn or spring, but April and May are the best months for transplanting them.

SOIL AND MANURE FOR DWARF PEAR TREES.—Of all the fruit trees planted, probably no one kind return, in proportion to the number of trees planted, as little return as dwarf pears. This is partly from a want of knowledge of how to prune, partly from neglect in pruning, or so pruning as to injure rather than benefit, partly from planting the tree in unsuitable soil, and partly from want of knowledge in supplying manures.

Of the last two items only will we now write. Too many are under the impression that dwarf pear trees should be placed

in very rich, deep soil, and then annually dressed with three to four inches deep of well-rotted barnyard manure; for such has been the "written and published instructions." The result of such course generally exhibits itself in a strong, vigorous growth of wood, about as close-grained as an elder-bush, and liable to atmospheric injury—i. e., blight—as well as presenting additional attraction to the insect *eclytus pyri*, the blighting effects of which are occasionally to be found, but not by any means as often as the injury from atmospheric influence.

We speak of this rank growth from the influence of free and heavy annual dressings of animal manures, because such have been the result of our observations in watching dwarf pear growing many years. And now, while we would choose a good heavy clay soil, moderately rich, as the bed, we would prefer a poor clay and no animal manures, to a rich deep soil and heavy dressings of manures. A calcareous clay, a gravelly clay loam, a good ordinary clay loam, or corn ground and a poor hard clay, will all grow dwarf pears satisfactorily, both in tree and fruit; while a sand, or sandy loam, or a muck soil, will in nine cases out of ten result in disappointment. A heavy dressing of animal manure annually will generally result in blight and death of the tree within ten years; while a simple dressing of two bushels of salt and one of plaster of Paris (gypsum) annually, with frequent stirring of the ground during the growing season, will as a general thing result in healthy trees and fine fruit.

The whys and wherefores of this statement can be written if necessary, but here we do not so deem it, and therefore only name the results of long practical observation.

ABOUT TWENTY-FIVE YEARS AGO WE PLANTED an Isabella grape-vine by the side of the barn. We had read that vines require animal and other rich fertilizing manure, so whenever an animal died, we dug a hole

three or four feet from the building and threw it in. Although so highly enriched, as we thought, it did not grow as well as others that had but little of such materials, and last fall we dug it up and planted a Hartford Prolific in its place. Judge of our surprise when we found in the rich black mass, where many years ago we had thrown the dead animals, not a root. They all avoided it, and the larger part went under the barn, or rather the foundation wall. If we had made a compost with our dead animals and forked it in around the roots, probably it would have grown and borne luxuriantly, for Isabella does grow very well with us if trained against buildings.

ISAAC HICKS,
North Hempstead, L. I.

INQUIRIES ABOUT THE PEAR WHEN WORKED, ON MOUNTAIN ASH, THORN, &c.- A subscriber in Ohio says he has been examining dwarf pear-growing, and finds that the most successful growers advocate planting the tree so deep as that it may take root with the pear stock; and that, as every variety does not readily grow on the quince, or strike out roots when planted in the ground, the practice is to select one or more sorts that readily take on the quince, and then, after the first year's growth from the bud, again bud with the untractable variety some eight or more inches above the union of the first sort with the quince. Our subscriber asks if this getting the dwarf to grow from the pear root is essential; and, if so, then why will not the mountain ash, thorn, or apple, act as a conductor or root to the pear for a year or two as well as the quince. And further, he says, if the quince is used, is there any difference in varieties for the purpose?

To these inquiries we purpose brief answers, but shall be glad, also, to have our friends send us their views, as the subject is one of considerable moment.

First, we do not consider it essential to successful and permanent effect that the pear, when worked on the quince, should

take root from the pear; but we do consider it essential that the quince stock should all be below the surface of the ground, in order that the return flow of sap from the pear may be freely returned to the quince roots; for, when the quince is all below ground, roots form from it even up to its junction with the pear; but when the quince is any portion of it above ground, its bark dries and hardens, preventing an even and regular return from the roots. The roots thrown out by the pear stock, when below ground, serve to add vigor to the tree; and, as they are lateral roots, so this vigor is imparted more to the spreading than upright habit of the tree. Again, it is rare that the pear sends roots from its own stock until after the tree has been in bearing two or more years, and acquired the habit of mature age, never again to return to youth.

For small grounds, where trees are to stand eight feet distant from each other, as is generally the practice in planting, the striking of the pear in its own root must, in a few years, necessitate a system of root as well as branch pruning, in order to keep the tree in the space allotted it; and, if root-pruning is to be practised, then, as well take the pear on its own roots, and commence at once.

Second—If in growing dwarf pears the object be to get them once into bearing, and afterwards root prune, because of the pear having struck root, then we see not why, in certain soils, the mountain ash and thorn may not answer a good purpose. The ash, however, will not succeed in cold or wet locations, like clays, &c., and it is liable to attack of the borer when grown in light dry soils, but some of the best Belle Lucrative pears we ever ate were grown on mountain ash stock.

The thorn is harder than the ash, and clays and wet do not apparently affect it more than the quince. Its abandonment for the quince, we opine, has been rather from the greater facility of getting quince stocks than any valid objection to the stock

itself. The largest Seckel pears we ever saw were grown on a thorn stock.

The apple, although at first uniting with the pear apparently well, and growing, perhaps two years, vigorously, then becomes checked, and within the next two years either dies entirely, breaks off, or remains a stunted dwarf, that no system of culture that we have tried would invigorate.

Lastly—The question as to difference in varieties of the quince for stocks, we consider answered, by saying that there is no more difference in quince stocks to work the pear upon than there is in apple stocks to work the apple upon. If the stock is a vigorous thrifty grower, it is a good stock. Unfortunately, a great many quince stocks have been grown from seed, and used as apple stocks indiscriminately, without regard to their vigor or adaptation to the purpose sought. Other quince stocks have been grown from cuttings, made also without reference to the habit of the plant or tree from which the cutting was taken. This indiscriminate manner of working the pear, as well as the apple, &c., in a great measure accounts for the want of success obtained by some planters, and also for the irregular and unequal vigor of trees when grown in nursery-rows and orchards.

Moore's Sweeting, and Talman's are good for winter use. Fine baked apples, eaten with pure rich milk, is about the best supper we have among farmers. We find no difference in the market price, if they are only handsome and in good order. An easy and a good way to cook sub-acid apples is to cut them in two, put about a tea-spoonful of sugar to a large apple, put them in a dish after cutting out the blossom and stem, put another layer on these same as before, and then cover with a dish or cover that fits close, and cook until done. The taste of the fruit imparted by the skin and seeds is very fine. Baldwin and H. Nonsuch are especially nice cooked by this method. A correspondent enquired a few weeks past about planting an orchard around his house. We like to have an orchard as near to the house, especially the summer varieties, as may be; but other shade trees are better in close proximity. Give the apple, cherry, and pear trees a field by themselves, and give them the proper care, and they will repay for the attention, but they make poor lawn trees, and, as they require to be cultivated, and sometimes get full of weeds, as young orchards are prone to, would present an unsightly object in front.

ISAAC HICKS, *North Hempstead, L. I.*

SWEET APPLES.—Why is it that sweet apples are so little noticed and planted.—We have sixteen acres of orchard, about twenty years planted, and we find, for family use, sale in New York market, stock, and cider, they are full as valuable as acid apples. We have them on the table (except the present year), baked nearly every meal, and are of good kinds. They are excellent to eat as a dessert. Put them in the stove oven when cooking the dinner, and they require no peeling or coring, no sugar, and are a good substitute for pies and pastry, and far more healthy. We have the Summer Bough, succeeded by Golden Sweeting, Jersey Sweet Corlies, Fall Bough, and Willis Sweeting, the best of all. Pound Sweeting, Ladies' Sweeting,

WHERE is there a plant which, during the autumn and winter months, is so gay or beautiful as the Primula? It is also very useful for exhibition or decorative purposes, or for filling the flower vase or bouquet. By artificial light, some of the varieties are very brilliant. During the last season a number of very beautiful double seedlings have been brought before the public, especially those of Messrs. Windebank & Kingsbury, of Southampton, who, at the present time possess some very splendid seedlings.

Where high cultivation is aimed at, care must be taken to keep the plants healthy at all times. I generally sow the seed in March, or in April, in pans placed on the front shelf of the greenhouse or viney. I

find that to bring the seedlings up well, nothing is so good as putting a square of glass over each pan, and as soon as the plants appear, I remove this to prevent their being weakened. When strong enough I put them in small 60's (3 inch pots), using for soil half leaf mould, loam, and a little silver sand. I keep them in a close frame for a few days till well established, when I give air freely on all favorable occasions. Early in May I repot the plants into 32's (6 inch pots), using the same description of soil as before. I now plunge them in a cold frame, in a shady situation, for the summer months, and in the end of July I repot into their blooming pots, 24's (8 inch pots), using a mixture of half loam leaf mould and a little rotten dung and silver sand. I then replace them in the frame as before, and am always very careful not to allow them to get dry during the summer, as nothing is so injurious to them. Early in September I remove them to the greenhouse, and I thus secure a good supply of bloom for the autumn and winter months.

J. C. Higgs, *Florist and Pomologist.*

St. Louis HORTICULTURAL SOCIETY.—At the annual election of this Society, the following named gentlemen were elected officers for 1866, viz.:

Norman J. Colman, President.

C. M. Saxton, Vice-President.

J. H. Tice, Secretary and Treasurer.

The Society then took up for consideration the importance of establishing a Horticultural bazaar in St. Louis. All seemed to feel the importance of having a Horticultural House, where the producer could send all his fine fruits and flowers to sell, and where the citizens would know where to go to buy them. A committee was appointed to take steps towards the organization of a joint stock company for that purpose.

A number of samples of wine were tested, viz.: Concord, Virginia Seedling, Herbeumont, Cynthiana, &c. They were presented by the President and by Louis Wolfe, Esq.

FUCHSIA.—Prince Imperial.—We have met with but indifferent success with the Fuchsia as a plant for winter blooming until we obtained this variety. Mr. Peter Henderson sent us a small plant last spring, which was planted in the open ground last summer, where it was soon in bloom. In October the plant was lifted, potted and placed in the greenhouse, where it continued to bloom profusely until the middle of January. After a short rest, it is now, March 1st, a mass of bloom. As a variety for pot culture for winter bloom we doubt if it has a superior. Corolla, dark purple changing to scarlet; sepals, bright scarlet, plant of dwarf compact habit.

PHILADELPHIA, Jan. 19, 1866,
Messrs. WOODWARD:

Will you oblige a Philadelphia subscriber to the *HORTICULTURIST* by giving, in the February number of your journal, some information in regard to the planting of a Peach Orchard, and also a few practical hints on the Peach Tree, &c.?

And oblige a regular subscriber who is going to plant a Peach Orchard the coming spring, in the southern part of Maryland.

Yours, &c.,

PHILADELPHIA SUBSCRIBER.

The soil and site for your proposed orchard is probably already selected, so that it only remains for us to say, it is a mistaken notion that a poor soil for the peach is the best. True, the peach will grow and bear tolerable crops where other fruit trees would hardly exist, but to produce crops of fine fruit, a rich soil of a sandy nature should be selected. Your trees should be planted about twenty feet apart each way, and the ground kept under culture of some kind.

For market purposes we would recommend the list of varieties given by Isaac Pullen, Esq., of Hightstown, N. J., published in our February number. Mr. P. has had large experience as a grower for market, and his selection of kinds can be relied upon. You will have to look out sharp for the peach-borer. Examine your trees twice

every year, spring and fall, and cut the worms out. Do not be satisfied with poking a wire into their holes, which is a very uncertain way of killing them. The best instrument for the purpose is a half-inch gouge, kept sharp. A small mound of ashes or air-slacked lime, kept around the body of the tree, will keep the borer from entering at or near the root, but will not prevent entirely his attacks. The exudation of gum is generally, but not always evidence of the borer's presence. For the yellows we know no effectual cure, and should recommend the eradication of the tree root and branches on which this disease makes its appearance.

MESSRS. EDITORS:

I always make it a point to read the advertisements in your Magazine, and am pleased to note that the grape-vine men have omitted any longer to offer the "Box layers for immediate fruiting" as the shortest mode to induce those who are getting the grape fever to part with the six dollars for a basket layer, in the belief that it is worth more and will fruit earlier, enabling the owner to pick nice grapes of his own raising the same season of planting. Down with all such humbug in grape culture. Do not teach new beginners to expect impossibilities. Rather let the statements be truthful, or even short of it; they are quite startling enough to make one wonder why men go so far off to seek investments in gold mines, or to bore for oil, when fruit and wine (at present prices) yield so largely. It is your duty, gentlemen, and I know it is your wish, to guard your readers against frauds and over sanguine estimates.

ONE WHO HAS "SUFFERED SOME."

FISHKILL LANDING, Jan. 12th, 1866.**MR. EDITORS:**

I do not agree with your intelligent correspondent's (Mr. Peter Henderson) article, called, "What not to do," more es-

pecially in that part of it relating to plant-growing.

It is just nineteen years since I went a journeyman to Chelsea Botanic Garden, and since that time have been more or less engaged in that branch of gardening—"Plant Growing;" and I never saw or heard of anybody succeed in growing hard-wooded New Holland plants, such as Heaths, Epacris, Acacias, or even Camellias, &c., without plenty of drainage. In fact, if the soil in the pots is not allowed to get dry enough to receive water almost daily, the plants are not in a thriving condition. For it is not so much the soil that feeds the plants, as it is the chemical substances of which the water is composed.

Now, for instance, how would epiphytal orchids do to be planted in rich soil? Or you can take terrestrial orchids, if you please, which are not so difficult to grow; without drainage, they would not grow at all. There are a great many other things I could mention that would not live a single week by Mr. H.'s method of growing soft-wooded plants; and if he had to make a living by cultivating hard-wooded plants, he would then be very soon compelled to change his plan.

If Mr. Henderson chooses to confess, he saw much better specimens of plants grown in the British Isles, when he was last there, than ever he saw in the neighborhood of New York, or any other part of the world. The English journals will be sure to see his article, and will not fail to whip him right and left.

I invite him to come up to Fishkill and see how the orchids grow with abundance of drainage.

I heartily agree with him in saying that the stones at the roots of the apple trees are of no service whatever—more harm than good, because the water is retained at their roots.

I know very well how to grow plants, but would like to hear about the club root cabbages. I am, gentlemen, sincerely yours,

JAMES COWAN.

HARTFORD, Feb. 20, 1866.

MESSRS. WOODWARD:

Seven years ago, at the annual meeting of the Connecticut Grape-Growers' Association, it was voted that the Delaware Grape "promises to stand exceedingly high." A resolution was also adopted, recommending for general cultivation, the following grapes, in the order in which they stand, namely, Diana, Isabella, Hartford Prolific, Concord.

At the recent meeting of the Fruit Growers' Society of Western New York, which was more fully attended than on any previous occasion, ("nearly four hundred persons being present,") a ballot for the best varieties of hardy grapes resulted in placing these varieties in the following relative order of merit, namely, "Delaware, Diana, Isabella, Hartford Prolific, Concord," &c.

The coincidence is noteworthy, and is one of marked significance, which those who are intending to plant grape vines will do well to heed, as such verdicts are intended to go before the public as the authoritative renderings of well-informed juries.

This decision, arrived at on general principles, indicates, probably, as reliable a selection as can be made, at the present time, for garden and vineyard culture in Southern New England, and Southern and Western New York, and "certain localities" further west. In some particulars it may not meet all the requirements of each one's particular case, so that, if either one, or more than one, of the above fails to give general satisfaction, in any one place or vicinity, it is advisable to substitute some variety which is known to succeed, and to add to them some one or more of the numerous untried novelties.

My individual practice has conformed to the above, for I have been adding, year after year, to my small vineyard, more or less of all the well-known kinds above enumerated, (with the exception of the Isabella;) while, at the same time I have also planted out, for trial, almost every new

kind of promise. I find imperfections in them all, old and new. The Delaware mildews, the Diana is unreliable, the Isabella is tardy, the Prolific is inclined to drop some of its fruit, the berries of the Concord are thin-skinned and perishable; Rebecca is delicate, Creveling loose-bunched, Manhattan, Union Village, Catawba, and Anna late and uncertain, Northern Muscadine foxy, Yeddo tender; and so on.

I have grown and fruited Iona and Israella, and am disposed to think well of them, but a close-observing correspondent of the *Gardener's Monthly* says of the former that "it drops its leaves and shows more marked symptoms of disease than the Catawba which is by its side;" and of the latter, a Massachusetts correspondent of the *Horticulturist* says, "it mildews badly." The Adirondac looks well, with me, in wood and foliage, and I am inclined to recommend it extensively for trial, although the few reports which have been made public with regard to it, during the past year, have not been uniform in its praise. Allen's Hybrid—so far as I have tried it—appears to be more perfect, or, in other words, less faulty, than any of the new grapes; and it seems to be gaining in popular estimation. Not one of the whole forty-four of Rogers' Hybrids can be said to have given entire satisfaction;—and so we might go on with specifications, but the road would lead us around and back to our starting place, and content us, probably, to make use of the few tried varieties which, although lacking in one or more of the elements of perfection, were the best which could be recommended by the Connecticut Congress of grape growers, in 1849; and by the New York pomologists in 1866.

D. S. D.

Mt. CARROLL SEMINARY,
CARROLL Co., ILL., Feb. 7, 1866.
EDITORS OF HORTICULTURIST:

Noticing inquiry "How to prepare white oak posts for vineyards to prevent decay," it occurred to me to submit my plan for the

benefit of your correspondent, and for the criticism of your readers. I say criticism, because I am an "amateur horticulturist," and "only a woman," and hence do not presume the plan is perfect by any means, and if I can draw out criticism, or suggestions or experience of others, by which I may profit, I may be more the gainer than your correspondent. Having about one thousand posts to set in our vineyard the coming season, and wishing to use timber from our own wood-lot, I set about planning some way to improve and make it more economical than to buy yellow cedar, at \$28 per hundred. So to my plan. I had my posts cut in the fall and early winter, the bark and roughness dressed off, and piled in loose ranks for seasoning. Have a tank made of the best sheet iron, forty inches deep, and over two feet in diameter. Have a grate made of oak sticks about an inch square, to cover the bottom inside, to receive the blows, should a post be let down hard at any time. Have an old superannuated cook-stove placed out of doors, on which the tank or boiler is set. Fill the boiler with posts placed the top end (*i. e.*, the end that was toward the top of the tree) down; the ends projecting to rest against frame built up to a suitable height to support them from tipping the boiler. Fill the boiler with gas tar, and build your fire under it. Boil till the wood is well saturated with the tar. Thus the post, so far as it goes into the ground, and some inches above, is covered when dry with a surface nearly as hard and impervious to water as glass. I have often seen tar recommended for this use, but have never seen any practicable plan given for applying it effectually. I have had it put on hot with a brush, but it seemed to me a very inefficient process. Any improvement will be gratefully received. When my trellis is completed I propose to have the whole covered with a good coat of tar. I have a grape arbor in process of construction three hundred and twenty feet long, ten feet high, and eleven feet wide, and a floor in it,

designed for an out-door gymnasium; hence will want it well covered with vines the year round. This arbor I intend to have thoroughly painted with tar also. Rather a dark picture, you may say, but not so bad methinks as to see the paint and soon the wood destroyed by the moisture under the vines.

Now, I have to ask information. Will some one who has had experience give a good and economical plan for fruit-house or cellar and ice-house combined? Is "Schooley's plan for summer fruit and ice-house" considered a success? Is it designed to keep fruit as well in winter? I want something of the kind built next summer, and would be grateful for the experience of others.

Will some of your readers who have had experience with "automatic gates," and who know whereof they write, tell us something about their practical utility? Our standard authority here in the West says, in reply to our inquiry on this point: "We have seen many different kinds of automatic gates, but none we have any confidence in." We have had some thoughts of trying E. Nicholson's, but would know more about it, and also if there is any better one in use.

Yours, &c.,

Mrs. F. A. W. SHIMER.

MEERS. EDITORS.

DEAR SIRS—Every reader of the HORTICULTURIST would be interested if some way could be devised that would be within the reach of all, for preserving fruit in the natural state beyond the time of ripening. Then fruit-growers would not be obliged to sell when the market is over-stocked, and prices below the cost of raising, and consumers would have an extended season for our choicest fruits.

I am experimenting with houses for keeping fruit, something on the plan of the one in this city, but instead of walls filled in all around with 3 $\frac{1}{2}$ feet of sawdust, I propose to build with spaces for confined air. Do you, or any reader of the HORTICULTURIST, know of a successful ice-house with

confined air spaces? If so, with what material is it built, how wide the space for confined air, and does it keep ice perfectly? There will be a fruit-house erected in this neighborhood the present season, with spaces for confined air, the success or failure of which I will promise to report to your readers.

E. NICHOLSON, Cleveland, Ohio.

ENGLISH BOOKS AND PERIODICALS.—
We are now prepared to furnish English books and periodicals, and import the same to order. In our advertising columns will be found a list of some of the publications which we at present have on sale.

BOOKS, CATALOGUES, &c., RECEIVED.

HANS BRINKER, or the Silver Skates, by Mrs. M. A. Dodge, daughter of the late Prof. James J. Mapes; published by James O'Kane, New York. An interesting story of life in Holland, combining history and instruction with pleasing details. Those unacquainted with Dutch manners and customs will find them carefully described, and the general reader will find agreeable entertainment in the pages of this neatly-published work. **PROTEAN CARDS,** or Box of 100 Games; suitable for all ages. John H. Tingley, 152½ Fulton-street, New York. There is provided for, at the expense of One Dollar, we believe, a good deal more amusement than we have ever seen before at so small a cost. One need never lack entertainment as long as they possess a box of these cards. **CANARY BIRDS.** —A useful and practical manual for those who keep these delightful songsters. Published by William Wood & Co., 61 Walker-street. Price, 50 cents. (See our Book List.) **QUIMBY ON THE BEE.**—A new edition, re-written throughout, of this excellent practical work on bee culture. The author has had large experience, and his directions and statements can be relied upon. Published by Orange, Judd & Co., 41 Park Row, New York (See our Book List.) McElwain, Bros.,

Springfield, Mass., Seeds and Vegetable and Flower Garden Manual Edgar Sanders, Chicago, Illinois, Plants David D. Buchanan, Elizabeth, Fruit and Ornamental Trees, &c. John Crane, Union, New Jersey, Strawberry Plants William H. Bailey, Pittsburgh, New York, Plattsburgh Nurseries D. Redmond, Augusta, Georgia, Georgia Nurseries John W. Bailey & Co., Plattsburgh, N.Y., Grape Vines Peter Henderson, Jersey City, N. Y., New Plants Henderson and Fleming, 67 Nassau-street, N. Y., Flower and Vegetable Seeds Hoopes, Brother and Thomas, West Chester, Penn., No. 1, Fruit Trees, &c.; No. 2, Ornamental Trees, Shrubbery, &c. R. G. Hanford, Columbus, Ohio, Columbus Nursery F. K. Phoenix, Bloomington, Illinois, Wholesale Price List Parsons & Co., Flushing, L. I., Fruit and Ornamental Trees, &c. J. Vick, Rochester, N.Y., Illustrated Catalogue and Floral Guide Hubbard and Davis, Wayne, Michigan, Fruit and Ornamental Trees, &c. Ellwanger and Barry, Rochester, N. Y., No. 1, Ornamental Trees and Shrubs; No. 2, Fruit Trees; No. 4, Wholesale Trade List Washburn and Co., 100 Fremont-street, Boston, Amateur Cultivators' Guide to the Flower and Kitchen Garden Wm. Parry, Cinnaminson, New Jersey, Strawberries, Raspberries, Blackberries, &c. &c. J. W. Manning, Reading, Mass., Reading Nursery Frost & Co., Rochester, New York, Nos. 1 and 2, Fruit and Ornamental Trees; No. 8, Select Greenhouse Plants; No. 4, Wholesale Price List; No. 6, Choice Flower Seeds Alfred Bridgman, 876 Broadway, N. Y., No. 2, Vegetable Seeds, &c.; No. 1, Flower Seeds Transactions of the Massachusetts Horticultural Society Capabilities and Resources of Grundy County, Illinois, set forth by the Grundy County Agricultural Society Forty-Seventh Annual Report of the Hampshire, Franklin and Hampden Agricultural Society, Northampton, Mass. Third Annual Report of the Proceedings of the West Jersey Fruit Growers' Association B. K. Bliss, Springfield, Massachusetts, Spring Catalogue and Amateurs' Guide Hovey & Co., Boston, Mass., Illustrated Guide to the Flower and Vegetable Garden John A. Brate and Co., Hamilton, Canada West, Seeds, &c.



BEST FARMING LANDS in the WORLD FOR SALE BY THE ILLINOIS CENTRAL RAILROAD CO., In Tracts to suit Purchasers, AT LOW PRICES.

THE ILLINOIS CENTRAL RAILROAD COMPANY HAVE FOR SALE,
900,000 ACRES of the best Farming Lands in the Country.

The road extends from Dunleith, in the north-western part of the State, to Cairo, in the extreme southern part, with a branch from Centralia, one hundred and thirteen miles north of Cairo, to Chicago, on the shore of Lake Michigan—altogether a length of 704 miles—and the land which is offered for sale is situated upon either side of the track, in no instance at a greater distance than fifteen miles.

State of Illinois.

The rapid development of Illinois, its steady increase in population and wealth, and its capacity to produce cheap food, are matters for wonder and admiration. The United States Commissioner of Agriculture estimates the amounts of the principal crops of 1864, for the whole country, as follows: Indian corn, 530,581,403 bushels; wheat, 160,896,823 bushels; oats, 176,890,064 bushels; of which the farms of Illinois yielded 138,354,185 bushels of Indian corn; 33,371,173 bushels of wheat; and 24,273,751 bushels of oats—in reality more than one-fourth of the corn, more than one-fifth of the wheat, and almost one-seventh of the oats produced in all the United States.

Grain—Stock Raising.

Pre-eminently the first in the list of grain-exporting States, Illinois is also the great cattle State of the Union. Its fertile prairies are well adapted by nature to the raising of cattle, sheep, horses and mules; and in the important interest of pork packing, it is far in advance of every other State. The seeding of these prairie-lands to tame grasses for pasturage or hay, offers to farmers with capital the most profitable results. The hay crop of Illinois in 1864 is estimated at 2,166,725 tons, which is more than half a million tons larger than the crop of any other State, excepting only New York.

Inducements to Settlers.

The attention of persons, whose limited means forbid the purchase of a homestead in the older States, is particularly invited to these lands. Within ten years the Illinois Central Railroad Company has sold 1,400,000 acres, to more than 20,000 actual settlers: and during the last year 264,422 acres—a larger aggregate of sales than in any one year since the opening of the road. The farms are sold in tracts of forty or eighty acres, suited to the settler with limited capital, or in larger tracts, as may be required by the capitalist and stock raiser. The soil is of unsurpassed fertility; the climate is healthy; taxes are low; churches and schools are becoming abundant throughout the length and breadth of the State; and communication with all the great markets is made easy through railroads, canals and rivers.

PRICES AND TERMS OF PAYMENT.

The price of lands varies from \$9 to \$15 and upwards per acre, and they are sold on short credit, or for cash. A deduction of ten per cent. from the short credit price is made to those who buy for cash.

E X A M P L E :

Forty acres at \$10 per acre, on credit; the principal one-quarter cash down—balance one, two and three years, at six per cent. interest, in advance, each year.

	INTEREST.	PRINCIPAL.	INTEREST.	PRINCIPAL.
Cash Payment.....	\$18 00	\$100 00		
Payment in one year.....	12 00	100 00	Payment in two years.....	34 00

The same Land may be Purchased for \$360 Cash.

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and Rural Taste.



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VOL. 21, 1866.

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THE
HORTICULTURIST.

VOL XXI.....MAY. 1866.....NO. COXXXIX.

ABOUT THE GRAPE.

BY F. R. ELLIOTT.

I do not propose to write a treatise, or give *perfect* directions how to select soils—plant and prune vines, etc—but, as I have been studying grapes somewhat, and reading all remarks of grape growers that I could have access to, I propose in a desultory manner to make my comments.

In the October number of the HORTICULTURIST was published a letter of mine, on the selection of soils whereon to grow the grape; some questions having been put to me respecting what I meant in that letter by *calcareous limestone soils*; before I say anything more, that is considered blind, let me answer: that by that term I mean soils of limestone, originally possessed of such slight coherence, that they disintegrate easily when exposed to frost, &c., breaking the rock to a sort of calcareous sand. These differ very materially from what are usually termed limestone soils; the latter resting upon beds of solid limestone, and rarely aving in their composition any carbonate of lime, and requiring the application of lime as a manure, as readily, if not quite as

much, as soils that were formed from sand, stones, &c. Capillary attraction may assist, and probably does, in supplying lime and other minerals to the roots of plants growing in soils resting on solid limestone. Calcareous limestone soils are not abundant in our States. So far as I know, Missouri possesses the largest quantity; and had I the grape fever, at such temperature as to make grape growing my own business, I would select my land in Missouri without delay; believing as I do, that all grape growers at the West must look to the wine made from the fruit, and not to sales of the fruit, for their profits. So much in explanation of what was before written. The classification of soils in which to grow the grape is by some regarded as all nonsense, and, judging from an article in the January number of the HORTICULTURIST, Mr. A. S. Fuller, author of a book on grape culture, evidently considers *any* soil suited to grape growing; and, so it is, "within one or two hundred miles of the Atlantic coast," location is of small consequence. It may be

that Mr. Fuller is right, and in so far as the mere fact of growing grapes is concerned, there is no doubt of it—but, while hundreds or thousands of acres *may* be grown around New York, Philadelphia and other large cities, and sold for table use—the hundreds and thousands of acres *now* growing throughout our Western States, must find return of profits in manufacture of the fruit into wine. Coming, therefore, down to that point, we have records from the old country, where soil, in a distance of less than half a mile renders one vineyard so valuable as to be unpurchasable; while another can be bought at a very low rate. In Illinois, some years since, I visited two vineyards, distant from each other not one eighth of a mile, both cultivated and trained alike. One made a good wine, the other only a moderate, or rather poor quality. In my immediate section, or the south shore of Lake Erie, we have grapes growing in almost every variety of soil, and so well is the matter now understood by our best wine makers, that they make a decided variation in the prices paid for grapes. Vineyards of Catawba, growing on sandy or loamy soils, find sale at a very low price to the wine makers. Some refusing to use them at any price, while they pay from seven to ten cents for the same variety upon limestones and clays. Indeed, we have men who claim they can detect the soil in which the grape was grown by seeing the bunch.

The author of "Ten Acres Enough," in January number of *HORTICULTURIST*, says he "never knew the Isabella grape was fit to eat," until this last fall, when he ate from a vine fed from the burial ground of cats, dogs, mules, etc. E. W. Bull, the originator of Concord grape, while advising a light, warm or good corn soil, says, the flavor of the fruit will be injured by application of coarse, rank manures, and advises use of bone dust, ashes and gypsum.

C. M. Glidden, of Ironton, O., on clay soil, digs three and a half feet deep; puts in bones; adds fifteen or twenty inches of

stable manure, and waters the vines during summer, *daily*, with lime-water.

In a trip to one of the islands in Lake Erie, last summer, I saw vines, of different varieties, loaded with fruit; they had been manured with fish; and by-the-by it strikes me, were I living on the same shore, I should act on this item to a certain extent; especially, if showy fruit and rapid growth of vine was an object, as it often is to the propagator and exhibitor. In Missouri, Mr. Husmann, one of our most intelligent of grape men, says the Catawba is unworthy of culture, because of its rotting; while L. D. Morse, Esq., Secretary of the Missouri State Board of Agriculture, says he visited a vineyard on the line of the Pacific Railroad—soil post oak clay, with pellets of iron intermixed, resting on a stratum of gravel, and that on magnesian limestone; and here neither rot or mildew affects the grape. Mr. Husmann's ground is a strong clay, and mostly, I think, a side hill.

Apparently there is collision in these statements, but in reality none, as no test of the sugar, alcohol or acid, in the various locations and practices has been made, and the matter of advising manure or no manure rests on the *taste* of various men, whom, if met together, very likely would differ as much in the eating of the same grape, pronouncing on it as they do on soils for its cultivation. Many assert that the appearance of grapes grown on sandy or loamy soil is better than those grown on clay, and to those who look only to the surface of the fruit, it may be so; hence the adaptation of any soil to grow grapes.

Unfavorable seasons however, occur to all fruits, the grape neither more, nor perhaps less than others; but when an unfavorable season does occur, when the rot or mildew affects the fruit, so as to render it undesirable for table use; then comes the test of soils, in giving to the fruit such qualities as will render it valuable for making *private* wine; for remember, we of the West ignore all so-called wines, in which sugar, sorghum, alcohol or other substances may have been

mingled. There is yet another point that in the grape culture has perhaps been too much overlooked. It is the adaptation of varieties to soils and climates, or localities. The American Pomological Society once undertook to recommend fruits for general cultivation; but they failed so signally, that their list has never received much attention. The observing fruit grower soon learns to distinguish what variety will and what will not answer for his soil and locality, and when some one or two apples, and as many of pears, seem to succeed everywhere, the majority will not do so.

The Concord grape seems apparently to do well nearly everywhere, but its quality is undoubtedly improved or reduced by soil and location; for while some have claimed to make from it a *pure* and good wine, others can only obtain a thin, red wine, about equal to claret.

The Delaware is, perhaps, on the other hand, a variety that chooses its soil and location, with as dainty a root as any hardy sort. Simple undulations, in a field, with their natural variations of surface soil, often changing it from a vigorous, healthy vine, producing delicious, good-sized fruit, to that of a puny weakling with small, sweet, but insipid fruit.

Mr. Fuller, in the article I have before quoted, names a list of grapes to grow for "profit." They are "Delaware, Iona, Isabella, Concord, Creveling, Hartford, and Rogers No. 3, 4, 15 and 19."

Such a recommendation of a list ought to make them succeed everywhere; but, unfortunately, with the Delaware, as I have just written, a distance of only say twenty feet, with a slight change in surface soil, the sub soil being alike, has made distinct qualities of the grape, and a distinct habit of growth. The Iona is as yet new, having only been sent out about two years, and its growers have petted it, as all do new and expensive plants. So far, we may say, the vines grow sufficiently strong to promise well, but its chances of freedom from rot, etc., are yet unknown, nor can they be

fully known under ten years. The Isabella, like the Iona, is also new, and the same may be said of it. The promise of these however is so good, that where a man has grown them with only ordinary care and found success, he may venture to plant more, but it would not do to advise planting acres of them where they have not been tested in growing of the vine. Concord, I have remarked on above. The Creveling, although before the people some twenty or thirty years, seems much like the Rome Beauty apple. To some it proves good, to others it is quite unprofitable, and therefore, although yearly talked of, few plant it. Hartford again proves so variable in localities, soils and seasons, that it seems to me it can hardly be commended for general planting. Soil and situation alone does not always affect this sort, season having very much to do with it. In my knowledge, about one hundred vines, one year, set and ripened their fruit, but dropped it from the stem badly. Another year, the same vines ripened and held their fruit middling well. The Rogers varieties are comparatively new. Like some of the cherries I described years since, they have served to meet rebuffs everywhere, except from those who had the vines to sell, and while they have been long enough before the public to have been fruited all over the States, I doubt whether more than five per cent. of any pomological meeting could say knowingly much about them.

With Charles Downing, both the fruit and leaves of Nos. 1, 3 and 9 mildewed badly this last season. Nos. 4 and 19 would probably command in fruit as much or more price in market than Concord or Isabella. While 3 and 15 give great promise, not only for table use, but for wine also. These two last are deserving extensive trial, and I hope it may be so extended with all the sorts, as to enable us in a few years to decide upon their adaptation to soils and localities. Sweeping recommendations of lists of fruits for general cultivation will not do—for while no hardy grape as yet known, equals a truly

well ripened Catawba, grown on calcareous clay or limestone soil, the variety is only adapted to particular localities. It is of no value in Massachusetts or Northern Central Michigan, etc., and the pomologists of these sections would laugh at the man who commended it for general cultivation. The selection of varieties, as well as the soils and locations where growing grapes as a business is intended, becomes a matter of considerable study, and requires thought. If for a market, and to be used at table, a very different sort possibly would be selected than where light, dry wine was intended to be made of the fruit. Distance of transportation would also be another item, dark colors and thick skins showing better, after being thrown hither and yonder by express companies, than light colors and their thin skins. Again, were red wines sought as the result, and wine only the object, a still different grape would be selected, and yet all would have to be gauged on their adap-

tation to the soil and section of country where designed to be grown.

The American Pomological Society are doing a good work in their preparation of a catalogue; but I should much like to see a collection made from letters of notes on fruits, from various horticulturists throughout the Union. At meetings few men say anything, and often those who could say, or write, the most valuable information as regards facts in culture, are left out altogether. But I am making my talk too long, and therefore will close by the quotations from Mr. Fuller's article: "Aiken grape, of which so much has been said in the West, is Isabella." "Haskell, from Michigan, is Concord." So Mr. Fuller thinks. I have carefully examined them for several years, and I think they are entirely distinct. Americans had better try them and decide; but be careful of whom you receive plants.

DESIGN FOR A COUNTRY HOUSE.

BY REV. P. D. OAKLEY, JAMAICA, L. I.

THE plan of this house explains itself. It is in every way compact and convenient. It would be difficult to find any loss of space. The verandah, with its broken lines and clustered columns, gives a pretty effect to the approach of the house. By the main entrance all the rooms are easily reached, and the doors of the parlor and sitting room are so arranged that, in case of large company, there can be free circulation from one to the other. All the rooms are brought close together, and though within a few steps of one another, by short passage-ways and doors, the smell of the kitchen and noise of one room is effectually excluded from the others. Every room, excepting the parlor, has a closet. The door of the sitting room, opening directly opposite the hall-door, which opens under cover of the piazza, gives, in the summer

season, both air and a pleasant garden view. The tea room may be used as its name designates. For this purpose it has an ample closet, and but a step from the kitchen, though entirely shut off from it. But the sitting room is quite as convenient, and but few families of moderate means care or expect but that their dining and sitting-room shall be one. In this case, this house might be made a very snug village parsonage, and this room, as it is separate from other rooms, is of easy access by the main hall, or by the main path from the street, with its windows opening under, and ready access to the side piazza, be made a very neat library or study. The kitchen is a clear, square room, with no encroaching projections, but with a large wall pantry. Everything here is handy and convenient. The cistern pump is in one of the recessed

corners of the chimney, just where it ought to be, out of the way, and close by the range, where a pot of hot water is always expected, and where there is also a sink to carry off all the waste water. One door leads from the kitchen to the back stairs, another under these stairs into the cellar. By having this cellar door near the outside kitchen door, there is no tramping across the kitchen floor necessary to get to it, and the necessity of having outside cellar doors is obviated. The outside kitchen door opens under cover of a shed, which shed is in keeping with houses of this

style, and greatly adds to the convenience of the culinary department. In this shed a stove can be used in the warm weather, by having a stove-pipe hole made from the outside into the kitchen chimney. When the main chimneys are being built flues from the cellar should be constructed with them, so that, if at any time desired, a furnace may be used. The cellar floor should be cemented.

This plan may be somewhat cheapened, and yet its convenience and general effect not materially altered. Making the parlor 14x20, instead of 22, and dispensing with

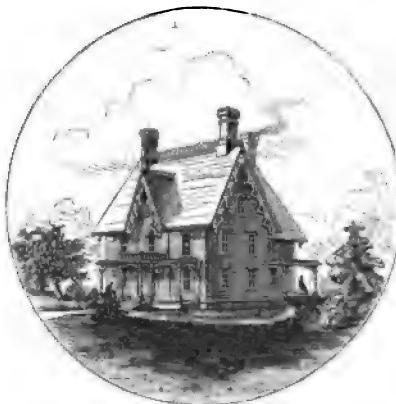


FIG. 55.—*Perspective.*

the hall between the tea and sitting-rooms, these rooms would be brought in immediate connection by a door opening between them, and then, if the family are so disposed, this would make a fine sleeping room, easily warmed in winter from the sitting-room. In this case, the door of the sitting-room, now opening into the rear-hall, would open directly on the piazza; and the door from the main hall will open into the sitting-room.

We think that the second floor affords as much sleeping room and as convenient arrangement as is necessary to meet the re-

quirements of any ordinary family who wish to combine economy, taste and convenience. There are five sleeping rooms and a room for domestics in the story over the kitchen. An ample kitchen garret, very easy of access from the kitchen, makes an excellent stow-away room. A door between the kitchen garret and the main building gives the servant girl access to all of the upper floor, and at the same time, by a bolt or lock, entirely shuts off the kitchen from all other parts of the house. The chimneys are so disposed that either of the four principal sleeping rooms can

have a stove. Where rooms are used exclusively for sleeping rooms, size is not of so much importance, if ventilation is properly attended to. This is accomplished in these rooms by having stove-pipe holes near the ceiling, and pivot sashes over the doors. Thus, each room is well ventilated, without the occupant of the bed being exposed to the draught. The little hall room may have a door communicating with either of the other front rooms, and be used for childrens' sleeping room or lady's boudoir.

Its window gives egress to the pleasant balcony over the veranda. The closets in the front rooms conform to the style of the building, and have a pretty effect by making recessed windows, under which cushioned seats may be formed, gratifying a principle both of taste and utility. These shaped closets will be in special keeping if the room is not a full story, but yields to a small curvature in the ceiling.

The style of this house is of the Rural Gothic order. It has a gable in front, under

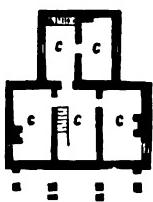


FIG. 56.—Cellar.



FIG. 57.—First floor.

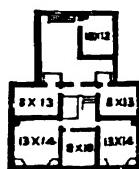


FIG. 58.—Second floor.

which is a Gothic window leading to the veranda balcony. It is weather-boarded, with sharp pitch, projecting roof, with cut shingles, and pendant barge boards in all the gables. The chimnies ascend from the ridges, and are topped with Scotch Garnkirk shafts, much preferable, the writer thinks, to our common cotta terra in exposure to the keen frosts of our northern winters.

This house, it is thought, combines simplicity in its purpose and construction—

unity in its design, compactness and convenience in its arrangements, and symmetry in its proportions. Its foundation should stand about 2 feet 6 in. out of the ground when properly filled up all around. The posts of the main building should be 12 feet long, and of the rear 14 feet, and when correspondingly interiorly finished, it will make a chaste, comfortable home, gratifying to the taste, and in its first cost but very moderately burdensome to the pocket.

PLAN FOR IMPROVEMENT OF GROUNDS.

BY E. A. BAUMANN, RAHWAY, N. J.

WITH this, I take the pleasure of sending you a reduced design for the laying out of a small place, drawn for a gentleman in Bristol, R. I.

The plan includes about four acres, and lies at the junction of two streets, a short distance outside of Bristol, with a very fine

water front on the Narraganset Bay, in the southern direction.

The north-eastern and north-western boundaries subdivide the place from some small lots, with poor-looking houses on them, and therefore the whole arrangement had to be made in consequence.

The house had to be located at such a distance from the streets, as to allow space enough for ornamental purposes.—This space was arranged in a manner to produce the appearance as if the whole plan was a pleasure ground, the planting hiding the vegetable garden and all the buildings in the rear, from one corner on the west up to the most eastern extremity when there is only the width of the barn-yard left open.

The barn, stable, hen-house, greenhouse, as well as the vegetable garden, are all of easy access from the house, and, besides, they are in such communication with each other, that all the operations can be done without encroaching on the pleasure-ground.

The traders, viz., butcher, baker, &c., have an entrance through the barn-yard leading to a small turn near the kitchen, and will come hardly in contact with any

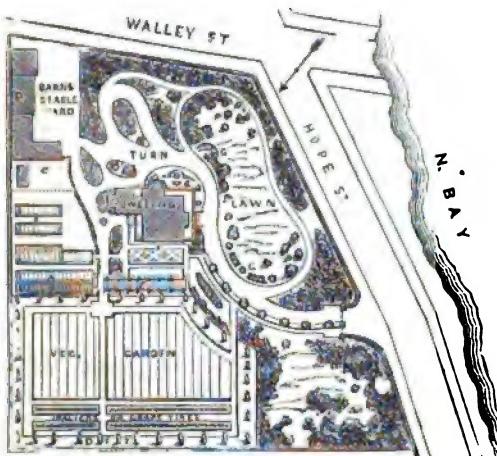


FIG. 59.—*Plan for Improvement of Grounds.*

carriage, for which there is a particular turn, more spacious, in direct connection with the barnyard.

To hide the vegetable garden from the windows of the south-west side of the house, there is an open grape arbor (an Italian pergola), with a fine display of climbers, and between this and the house, a regular small flower garden, for Dutch bulbs, and bedding plants.

Trees of large size have been employed in great variety all along the streets, but irregularly planted, and if kept as recommended, i. e., with bare stems, they will shade the whole walk surrounding the front lawn, without obstructing the water view.

A row of tall deciduous trees follows the main entrance drive on one side, and some more trees of the same class are scattered single on the lawn, and on the patches sur-

rounding the turns, casting some shade around the house.

Shrubbery of some ten to twelve feet elevation has been employed on the western corner and along the enclosure of the barn-yard, with low, flowering shrubs in great variety in their front, showing a continuous mass of foliage from the top down to the grass.

In connection with the tall trees planted from the main entrance to the barn-yard, only a single specimen of rarer variety, and some very low shrubbery, has been employed, bringing thus the show plants in prominence, and producing with the small shrubs a greater contrast.

The drives and walks are made exactly at the level of the lawn, the small size of the place admitting of an arrangement which in a larger one would not answer as well.

The vegetable garden is quite small; but in a suburban garden, as this plan really is, it answers completely for the smaller sorts of vegetables and fine herbs required every moment for the table; and near a city, such vegetables used for winter, or which may be kept in a cellar for a week or more, may always be procured in the market cheaper than they can be grown on such a place.

A border of dwarf fruit trees surrounds the vegetable garden. This border is of about 15 feet width, allowing in the rear a row of blackberries, raspberries; and among the trees, currants, gooseberries, and even strawberries.

Of border or edging on the walks in the vegetable garden, there is none. I suggest-

ed the walks to be raised above the ground, keeping them dry by carrying the rain water on the worked land, where it is more wanted than on the walks.

I have since seen gardens in which the walks were altogether left in lawn or sodded. I had always an aversion to borders of sods; but I confess that the practicability of sodded walks in a vegetable garden is a very good system, and I shall recommend it in the future.

On the south side there are two borders, with trellis work, intended for grape vines: these will answer very well in spring for early kinds of small vegetables.

I have no doubt that this design will be of some use in situations corresponding with the location of this place.

DESIGN FOR A GRAPE ARBOR.

BY E. A. BAUMANN.

THE accompanying design for a grape arbor, in the style of an Italian pergola, I have already introduced in several places with success.

This arbor is more an ornament to a place than are arbors generally, which are intended more to hide nuisances, but which show them in the best way to everybody that comes near a house.

By the design, you will observe that the arbor is open on the front side, with a balustrade or panel work, of $3\frac{1}{2}$ or 4 feet high from the ground..

The rear is covered with laths, 12 to 15 inches apart, for the purpose of training grape vines intended to run on the top, along the cross-pieces.

This arbor could be built of almost any kind of timber, and painted any shade, but a wood color, imitating oak or chestnut, would be the most suitable.

The upright lattice-work, running along the posts, is intended to give the posts a heavier appearance, and to tie up flowering climbers that will have to be trained

length-wise along the upper piece of timber.

The horizontal pieces run across the posts, tying them together and supporting the laths, $2\frac{1}{2}$ by $3\frac{1}{2}$ inches, which are lying crosswise over them, and project some 15 to 18 inches out.

Vines dropping from the top will soon make the whole more heavy.

When I employed or introduced this style of arbor, it was either to shut out some objects outside the place, on parts of a small lot, where a group or a belt of shrubbery would not have found room enough, or to establish an ornamental terminus in the pleasure ground, and a separation between this and the vegetable garden.

With a well-selected collection of climbers, this arbor would soon be a very handsome feature in a place. Tall-growing varieties of climbers, like Wistarias, Clematis, Running Roses, &c., may be trained on the posts; and dwarfer sorts, like Honeysuckles, Akebia, Bignonias, Jasmimens, the annual

varieties of Ipomoeas, Tropaeolums, &c., may be employed along the base.

In case this arbor should be placed on the boundary line of a place, the rear on the north side would not answer well for grape vines; but in that case, I should sug-

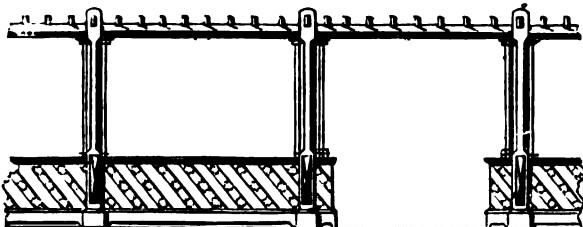


FIG. 60.—*Side View of Arbor.*

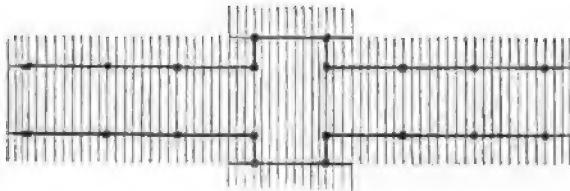


FIG. 61.—*Top of Arbor.*

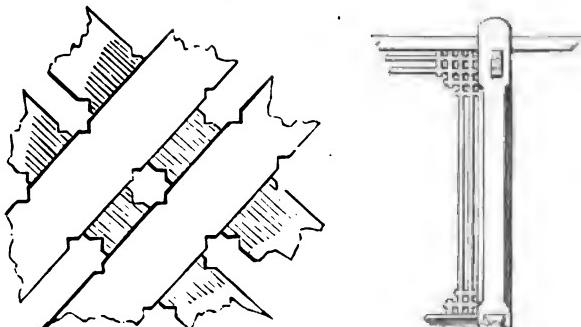


FIG. 62.—*Details of Arbor.*

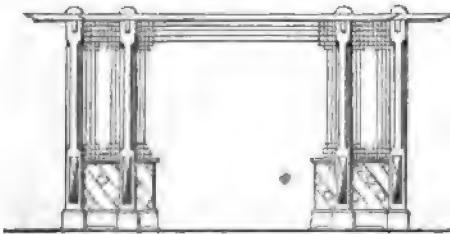


FIG. 63.—*Cross Section.*

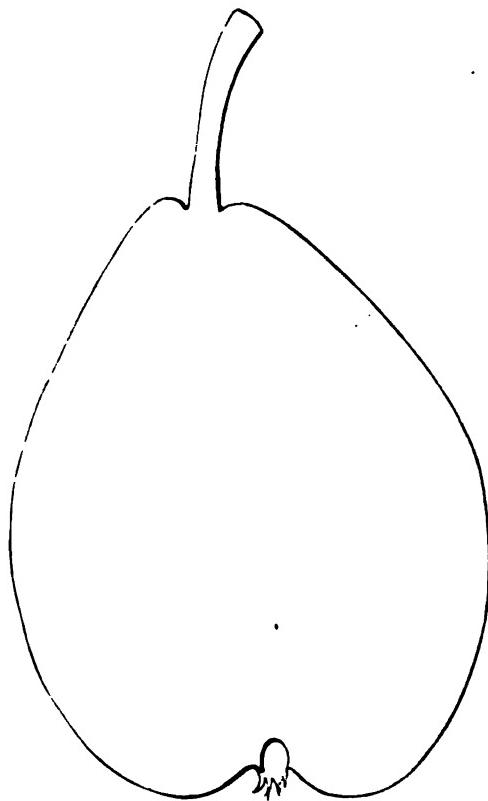
rest to cover the rear entirely with the Virginia creeper, Aristolochia Siphon, or some other fast-growing climber succeeding well in the shade.

RHWAY, Feb. 24, 1866.

PEARS—GENERAL TOTLEBEN AND EMILE D'HEYST.

BY CHARLES DOWNING, NEWBURGH, N.Y.

EMILE d'HEYST, a Belgian fruit; tree of moderate vigor. A healthy and good grower, but straggling, and not easily brought to a pyramidal form. It seems well suited to this climate. Young wood, fawn or light brown; rather slender. Fruit large, or about medium size, long calebasse form. Color light green, washed and waved with fawn and russet; becomes bright yellow at the time of maturity. Stem variable, but

FIG. 64.—*Emile d'Heyst.*

rather long; sometimes fleshy; inserted in an uneven cavity. Calyx small, set in a deep narrow basin, surrounded by uneven protuberances. Flesh buttery, melting, very juicy; exceedingly fine, sugary, and

well-perfumed (L. E. Berckman's MSS.) A very great bearer, and requires thinning to have the fruit in perfection. From all we can learn, this fine pear has given general satisfaction in this country.

TREE vigorous, healthy, and productive; a new promising variety, of foreign origin. Fruit large, turbinate, pyriform, angular. Skin greenish yellow, considerably netted and patched with russet, and thickly sprinkled with russet and brown dots. Stalk long, curved, inclined; inserted in a small cavity, sometimes by a lip. Calyx small,

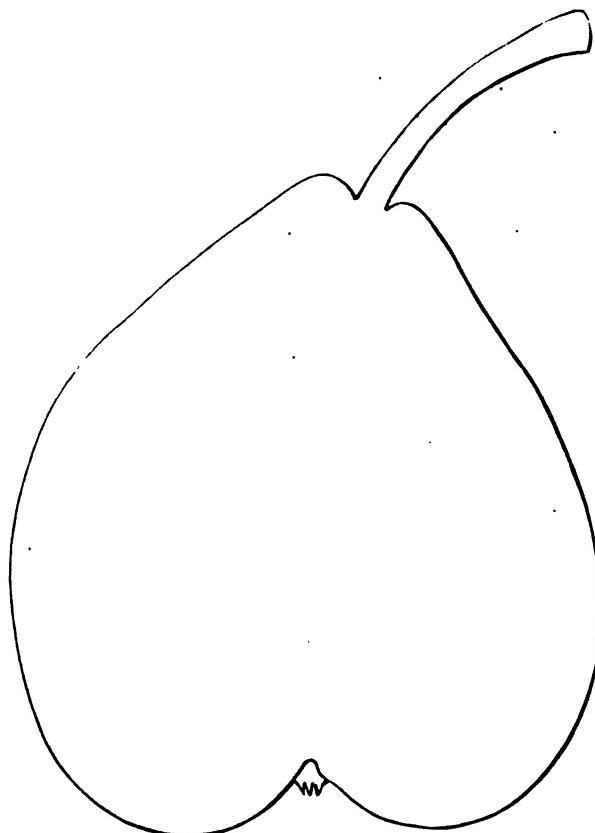


FIG. 65.—*General Totleben.*

open. Segments short, erect. Basin large, slightly aromatic flavor. Ripe last of October and November. A fine new promising fruit.
deep, uneven. Flesh whitish (often flesh-colored around the core), a little coarse, very juicy, melting, with a rich vinous,

THE PROPAGATION OF THE DELAWARE AND OTHER HARDWOODED KINDS OF THE GRAPE MADE EASY.

BY HORTICOLA.

SOME of the readers of the *HORTICULTURIST* (see vol. xix, 1864; p. 61) may remember that I made vines grow which, during their passage from Germany to this country, had commenced pushing in the box in the absence of light. I left the asparagus-like shoots on the pieces of the old wood, which I planted, and succeeded in making grow. Mr. Peter B. Mead, the then editor of the *HORTICULTURIST*, made the remark that I unconsciously had been making good plants. This hint was not lost upon me, for it induced me to make a number of experiments, especially last year, the results of which so far surpassed my expectation that I deem it my duty to make them known through this magazine. In describing them, I will dwell exclusively on the main points, omitting the gradual development and perfection, so far as it goes, of my plan.

On the 27th of May, last year, when the young shoots of the Delaware were from two to four inches long, I cut pieces from the ends of the last year's canes about two inches long, having a young shoot of the length indicated in the middle, or rather so, that each of the young shoots had from one-fourth to one-half inch *below*, and about one-half inch *above* them of old wood. I laid the old wood horizontally in my propagating bed of anthracite coal dust, so that the young shoots were erect at right-angles with the old wood, which was covered with coal dust a little more than one-half inch deep. I shaded them a little, and watched them regularly. I did not make any fire, relying on the heat of the sun, which is rapidly absorbed by the coal dust, and which warms it thoroughly to the depth of at least four inches. Seventy-five cuttings of the Delaware, made in this way, gave me seventy-three beautiful plants. They had such masses of roots as I never saw on

plants propagated in any other way. It was astonishing to see how the young green shoots continued growing, just as if they had not been separated from the mother plants. Those propagators who use sand will succeed equally well with it.

I could give a whole catalogue of vines, cuttings of which, treated in the same way, gave similar results. It is not necessary to state here that soft-wooded kinds grow with still more certainty, i.e., the *Rebecca*. Propagators are, in this way, enabled to make two sets of cuttings; all they have to do is, not to prune the canes of their vines so short as usual, in order to bare wood and shoots enough by the middle of May. That vines do not bleed at that time when wounded is, at present, known even to the inexperienced.

In this connection I will give some account of other experiments, with results quite different from those related. Had I not been reminded by one of the readers of the *HORTICULTURIST* that I had promised to report, I would, perhaps, never have done it. The circumstances had so entirely escaped my memory, that I had to make a little effort to recall them to my mind. I forgot them on account of the failure.

Several years ago, I planted in the Fall a large number of cuttings from the Delaware, the Diana, and other kinds, in the open ground, covering them at the approach of winter sufficiently to protect them.—From what I had read about this method I felt so sure of the result hoped for, that I did not hesitate to treat so, a most remarkable variety of the wild grape, which I had found on Snake Hill, in this vicinity. Its leaves were the most elegant and ornamental of any vine that I ever saw. They were full lobed, but so deeply and gracefully cut, that they resembled the five in-

gers of a human hand. In the spring following all my cuttings began to grow, but the young shoots soon drooped, and the cuttings died. When I saw the danger, I took up three that were still green, and planted them in a hot bed, but to no purpose. I did not save a single cutting of the wild grape; of the others, some made roots, but as there were so few of them, I became disgusted, and did not take care of them. I think I was very careful in planting and protecting the cuttings; still, I may have neglected some thing, though I am not conscious of it. At all events, my experience was such as not to warrant the repetition of the experiment, and I cannot conscientiously advise anybody to risk any valuable kind in trying it.*

Cuttings of the Delaware put in water, and placed in a warm room, i. e., a kitchen, for eight or ten days, and planted in the open ground when the weather grows warm, root uniformly, and make fine plants. From the first year I tried it till last season, my success has been the same. I do not remember having lost a single cutting in that way, provided I planted them in compact clayey soil; in porous soil they do not grow so well.

* Unfortunately, the wild grape mentioned was destroyed. The attempt to take it up failed, the roots having fastened themselves in the fissures of the rock. So the stem of the vine was broken; all I saved was the cuttings, which I lost as stated. I visited Snake Hill twice every year since I obtained the cuttings, hoping that the stump might send forth shoots again; but I have to bear the disappointment—the vine is dead.

PLANTING STREET TREES.

Nothing is more obvious than that by the judicious planting of trees in the embellishment of country homes and country and village roads, the value of property is much enhanced, and comfort, elegance and health greatly promoted.

Buildings that are mean in appearance, homesteads dilapidated and storm-worn, are relieved, and their defects almost hidden to the passer-by, if surrounded by beautiful shade-trees. Roads and streets uninteresting and bare, hot and dusty in summer, dreary and cheerless in winter, can be converted into pleasant avenues and highways of enjoyment to the traveler and weary pedestrian, if bordered with desirable trees.

Then the tastes of the citizens will be more refined, and their thoughts and pursuits more congenial with the nature of their surroundings, and the language of future generations will bless the memory of those enlightened philanthropists who planted them.

The trees that we plant around our homes become deeply woven in our memories, and we realize the sweet satisfaction and pure enjoyment of seeing the trees we

have watched with care and hope growing thrifstily, leaving lasting mementoes behind us that our lives have not been spent in vain. In planting trees we require skill and attention to the laws of vegetable life. Enthusiastic love of nature's gifts will not make a tree grow with success if wrongly set out, or treated with neglect.

Let us plant them nearly in the position they grew in before, their roots nicely spread out, and the earth packed around them so as to leave no space unfilled. And then, if the soil is not good friable loam or mould, we should procure such to place around their roots, and not fill up with rich or unfermented manure. Let us feed the roots gradually by spreading it on the top, and keeping the soil moist and mellow by mulching with refuse straw-stalks, or anything that will be of service to kill the grass and prevent the earth becoming hard and dry around them. We require only the most hardy trees to plant by the road, for the soil is generally of poorer quality, and they will be more exposed, than when planted on the lawn or about the house.

Shade-trees, combining a pleasing variety of colors and habits of growth, are the most

pleasing to the eye, for if an avenue should contain but one variety, and that the very best, they will be monotonous and dull. The winter landscape is greatly enlivened by the presence of evergreens, and they are beautiful everywhere, but unless extra care is taken few will plant them by the roadside, sides, for who can tell how soon a vagrant cow will, in frenzied mood, make a sightless, forlorn wreck of the finest evergreen?

But the Pines, if of large size, can be transplanted by the road, and the lower limbs trimmed off out of cattle's reach; but the best mode, we think, would be to make a fence around, and plant medium-sized trees, and in a few years cut off the lowest limbs. They grow well on poor soil, and will present a fine contrast if a few are intermingled with deciduous trees.

We are all aware of the reputation of the American Elm for street planting. They seldom make much shade until they are fifteen or twenty years old, and he that is in a hurry for shade around his place, and pines for the leafy canopy of trees near his dwelling, will have to wait too long for the Elm. They linger sadly if planted in light, poor soil, or if we allow their roots to be encased when young with a stiff mass of sward. Planted alternately with bushy trees, they give the finest effect. For light and rather dry soils we have found no better tree than the Sycamore Maple. It is a rapid grower, of fine form, and easy to live. The Norway Maple is often considered the most beautiful tree we possess. Covered with fine yellow blossoms in spring, and draped with light and graceful foliage in summer, when the frosts of Autumn chill its leaves, it yields slowly and unwillingly to its power, presenting a pleasing contrast of green, yellow, and brown shades mingled together. With us it is not as fast a grower as the Sycamore, but will better withstand hard usage, and thrive in a greater variety of soils. On good soil the white or silver-leaf Maple is the most rapid-growing desirable shade-tree. It is a native of Pennsylvania and other Middle States, and is so well known and extensively planted

that further notice is not necessary. Our White Ash and European Ash are well adapted to planting roads, and while they are easy to make live, and beautiful in form, their wood is of great value. The Linden tree has long been a favorite ornamental tree, from the fine conical form it assumes, and its ease of cultivation. We much prefer the Basswood, or American Linden, to the European. It is a more rapid grower, and its leaves, unlike the common European, retain their green color through the season. The white, or silver-leaf, is the finest species, but they are scarce and dear. The Tulip tree, in rather moist situations, or where the ground is kept mellow, as in the nurseries or woods, is the noblest forest tree of our country. They cannot be successfully transplanted when large, but their tall, straight trunks and bright, green leaves are objects of interest wherever we meet them. Sometimes the Liquid Amber, or Sweet Gum, could be planted with low growing trees, as they are of rapid growth, especially in wet situations. Their star-like leaves, when dyed with the rich, red tints of autumn, are among the gayest trees of the forest. No tree exceeds in grace and freshness the European Larch, in its new vernal dress. Although it looks rather dingy in Autumn, its spring and early summer foliage is so refreshing and lovely that we would plant some of this kind by roads and village streets, and protect them by stakes if small. In heavy soils the Deciduous Cypress succeeds finely, and is an ornament in the fall and early winter, when other trees are bare of foliage. In limestone countries and in clay soil, or where there are spriggy places, the Sugar Maple is one of the finest shade-trees we have. On dry and sandy soils other trees succeed better. We think that these will be sufficient for most persons, although there are other trees adapted to street planting, such as the Ash-leaf Maple, Black and Balsam Poplar, Black Walnut, Butternut, and, by the springs and water-courses, Weeping Willow. I. H.

NORTH HEMPSTEAD, L. I.

CORDON DWARF APPLE TREES.

BY E. FERRAND, DETROIT, MICHIGAN.

THERE is an innovation which deserves to be introduced in American gardening, that is, the dwarf apple trees cultivated for edging the walks of vegetable and fruit gardens. The idea of growing the apple tree in this shape originated some ten or twelve years ago in France, and is carried on there now on a large scale, very few gardens, and even the largest nurseries, being without their walks edged with those beau-

should be on its own roots, and not, as some of my nursery friends have it here, a scion of Paradise grafted on some better growing stock.

The accompanying drawing will explain how to plant the trees, and will show the effect presented after two years from planting.

The first thing is to establish a strong stake at each end of an unbroken line, on the edge of a walk, as shown from A to A, Fig. 66, leaving these stakes about a foot above ground; then, from the top of one stake to that of the other, a wire is tightly fixed, which is destined to have the trees tied to it; the trees are planted on the line of the wire from 5 to 7 feet apart, according to

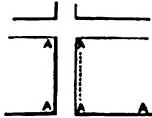
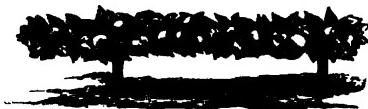


FIG. 66.—

tiful trees. Cultivated under this form, the apple tree can be introduced in a garden of the very smallest extent, where otherwise it could find no room.

Do not suspect that in putting forth this innovation I pretend to propose a substitute for the old standard apple tree. Very far from it. But I intend to present a novelty which is very interesting in many ways, and which will pay for the trouble it may give by the fruit alone, without taking into account its merit as a very beautiful ornament.

FIG. 67.—*Tree pruned—Fig. 68.—Tree with its
ed for planting. limbstied to the wire.*FIG. 69.—*Apple Trees en cordon Three Years
after planting.*

quality of soil; two limbs of the tree are then tied to the wire, and all the other branches cut off, and those remaining shortened to eight or ten buds for the first year; or better yet, the tree is cut off to the height of the wire, and, as it grows, the two upper branches are tied to the wire.

In order to tighten the wire (none but sound galvanized wire should be used) when it becomes loose by the action of the sun or otherwise, a small instrument is used, which is also employed in the vineyards, and will be described in another article.

The only care these trees require is to have the wood pinched very often in summer, say every two weeks, excepting the two branches destined to follow the wire, which are left to grow at will, but tied to the wire as they need it. The

The dwarf apple tree *en cordon*, as they call it in France, must be of necessity budded or grafted on Paradise, the Doucin being even a too strong grower; but here it must also be remarked, that the Paradise

pinching causes the buds to swell, and determines the production of fruit buds, so that the second year the tree is pretty well filled with fruit. When the trees reach one another by their extremities they are grafted together, so that from one end of the wire to the other the trees are but one.— These trees are then allowed to produce no more wood, and need only to be severely pinched in.

The apple trees thus cultivated make a neat and very ornamental garland of fruit and foliage around each square of the gar-

den. I had once under my personal care about seven thousand feet long of those cordon apple trees in my father's nursery, and we never missed a heavy crop. I am experimenting the same here in my own garden with trees that I received from France for that purpose.

More could be said about these beautiful trees, but I do not want to abuse the kindness of the editors, and have merely pointed to the principle. I will add—no trees older than two years from the bud should be used for this purpose.

GRAPE CUTTINGS FROM MODERN HISTORY.

BY JOHN S. REID.

In our former articles we endeavored to confine ourselves to the culture of the Vine and manufacture of Wine as known and practised by the Ancients; now we intend to speak more fully of the various kinds of grapes known to the Moderns, passing over that part of the history of the grape which may be found in the "Ana" of the Middle Ages, as we were unable to find any sufficient data to speak from during that period, although we learn that some of the provinces of Rome, now embraced in the Departments of the French Empire, cultivated the vine during the first century, especially the middle departments, when Domitian was Emperor, at which time the celebrated Edict was issued, destroying the vineyards in the provinces, and prohibiting any new vineyards being planted in Italy. This prohibition continued for almost two centuries, when it was revoked by Probus, and new vineyards were planted with the choicest vines from Greece, Sicily and Rome, in the Gaulish Provinces of Languedoc, Provence, and Gurinne.

Although the cultivation of the vine in France dates back to the palmy days of the Roman Empire, the climate of Europe was not such as it now is, but was much colder, and seldom matured the fruit of the grape

north of Cevennes, so that great armies, during the winter, passed over the Rhone on the ice, which could not be done during the last five hundred years. Pliny, Strabo, Columella and Durmimas make frequent mention of the vineyards of Narbonne Gaul, the latter of whom alludes to the mode of cultivating the vine by the Aquitani, on the banks of the Saone, supposed to be the modern *Cote d'Or*.

The wine of this time was also much relished at Rome, and those of Dauphine, Marseilles and Narbonne were esteemed the best; but the most celebrated were obtained from the Muscat of Languedoc, and a rich and violet scented grape of Vienne.

During the 13th century, the wines of France had become famous over all the civilized world, and a very amusing fable, called the Battle of the Vines, was then published, in which the different vintages or classes of wines were made to pass in review before the French monarch, each contending for the palm of honor.

But the choicest wines were the product of the vineyards owned and cultivated by the Church of Rome; for as the clergy were, during this period, almost the sole depositaries of learning, so they were among the first to improve the cultivation of the

vine, and to attend in person the manufacture of the wine. Kings and Nobles then vied with the Church in producing this glorious beverage, whose motto was quality, not quantity, and the monks of the Cistercian Abbey, then the owners of the celebrated vineyard, *Clos-Vougiot*, containing about 80 acres, were satisfied with twenty hogsheads, which now, under different lands and management, produces not less than fifty.

For many years the rival wines of Burgundy and Champagne contended for the Bacchic crown; but not until the coronation of Louis XIII., in the year 1610, did the latter acquire the pre-eminence, since which no rival has been able to displace the wines of Champagne, which were decided, in 1778, by the Faculty of Medicine in Paris, as being the choicest vintage in France.

If any of our young readers would place before him the map of France, and search out the several departments and provinces referred to in this paper, he would find himself much benefitted by the operation, and have a clearer idea of their locality and relative situation to the great wine region of Europe.

The culture of the vine embraces generally the region of Olives. In France, from near the mouth of the Loire, a line of limits extends in the direction of the Rhine, passing a little north of Paris, and terminating near Dresden. It then returns along the frontier of Bohemia, to its point of crossing the Rhine at Coblenz, covering the valley of this river and the Lake of Constance, in Switzerland, traversing the Alps in the middle of the Canton of Valais, following the declivities southward to Venice, to return through Lower Austria, Hungary and Wallachia, eastward to the Crimea. These limits show a large extent of country on which the vine is capable of cultivation and of maturing its fruit.

Another writer commences his point at lat. $47^{\circ} 30'$ on the Atlantic coast of France, running to lat. 49° in the interior and thence

to Coblenz, lat. $50^{\circ} 20'$ on the Rhine for the East. In Germany, it does not extend beyond lat. 51° , and its true limits are much under these figures. Bordeaux, Dijon and Manheim would fairly represent France, or the extent of the limits of the wine grape in that country.

Champagne, within the Department of Marne, is entitled to the honor of giving its name to the most celebrated wine in Europe, and the vineyards of Verzenay, Mailly, Raumont and Sillery situated northeast of Paris, at the north-eastern termination of the chain of hills separating Marne from Vesle, take the first rank.

The average annual value of the wine crop of this department is about ten millions of dollars, the product in gallons being about forty-four millions — one-fourth of which comprises the Champagne quality; the rest are red and white wines of superior quality.

This wine is made from a white grape, peculiar to that province and its soil, and although imitated by others, never surpassed by any.

As France takes the first rank among the political powers of Europe, so, in like manner, it exceeds them all in the cultivation of the grape; and indeed it would be somewhat curious to trace the seeming connection between the great Empires of the world and the vine—not that we believe that there is any necessity in their connection, but the singularity of the alliance has more than once occurred to our mind. Apart from the great commercial, mechanical and agricultural Empire of Great Britain, France has no equal in Europe, and in the cultivation of the vine, and the manufacture of its glorious juice, she is far ahead of every other nation, either of ancient or modern times; but it is not alone to her position as a great maritime and warlike power that she has acquired pre-eminence in this; in our opinion, it is to her climate and especially to her soil and institutions, that she is indebted for the high station she holds in this respect.

Bounded by the Mediterranean Sea and the Pyrenees Mountains on the south, in lat. 43° north, with the great Atlantic on the west, to which her rivers chiefly flow, and her mountain ranges tend—she is highly fitted for the cultivation of the grape vine, lying some 5° within the region generally awarded to the olive, the vine and the orange.

But even within sunny France, the vine is a capricious mistress, preferring certain provinces, and sometimes certain districts within one province, following the course of her mighty rivers, and flourishing only along the sides of her sunny hills. Thus, the mountains of Auvergne, separating the basins of the Loire and Garonne, are evidently the remains of extinct volcanoes; whilst east and south of this volcanic mass extend the Cevennes for about 200 miles, the northern portion of which runs north and south with the Rhine on the east; whilst the Jura mountains, composed chiefly of limestone, form a barrier between France and Switzerland.

Now, not only are the best wines and richest grapes produced within and along these mountain ranges and shallow valleys, but it is almost impossible for the vintner to grow them in quantity anywhere else. Thus, the wines of Champagne, north and west of Paris, in lat. 49° , take the first rank; yet the same vine refuses to bear in Central France, several degrees farther south.

Again, some small vineyards are found enclosed with stone walls—on the very limit of the grape culture—like oasis in the desert, so well marked and defined, that their area commands fabulous prices. Thus, the Clos-Vougiot, which contains about 80 acres, produces wine of such excellent quality, that its revenue was sufficient for the expenses of a noble, and the Romanee Conti is produced on a piece of ground not exceeding seven acres; whilst Chambertin, near Dijon, is the product of only 65 acres.

We make these remarks to counteract

the off-hand opinions of a great many grape culturists that the grape vine of America, being indigenous to America, will grow and produce, over as wide an area of country as the apple or the pear; and even Mr. Fuller, in the last January number, promulgates this idea. But we do not believe in it: the *Vitis Vinifera* of Europe requires a peculiar climate and a peculiar soil, and where the best wines are produced, the soils are, for the most part, light black or red loam, mixed with the *debris* of calcareous rock; and so in our own country, whilst the limits of the culture of the grape extend from the borders of the Rio Grande at El Paso, to the great Lakes of the north; still, there are some places within this vast compass where it will not flourish, whilst there are others where it delights to fruit and multiply.

But let us examine some of the French statistics for wine, and compare notes with the several Departments of that Empire.

The French wine crop of 1845, 20 years ago, stood thus in some of the Provinces:

	mill.	Gallons.
Champagne	43	"
Burgundy.....	624	"
Lorraine	49	"
Languedoc	144	"
Provence	68	"
Guienne & Gascony 1824	"	"
Samtonge	63	"
Orleanois	37	"
Isle of France	37	"

These are the leading Departments. The total crop from all was about one thousand millions of dollars.

Now, if we refer to the rank which each generally takes in the wine market of Europe, we shall find them to stand thus:—Champagne, first in quality and highest in price; Burgundy, long the rival of Champagne, is only second, and in some instances is preferred—such as the Romanee Conti, frequently bringing fabulous prices. The celebrated vineyards on the Rhine, such as the Hermitage, Cot Kotire, Condrien, and St. Colombe, are so well known that their

product is found in every wine market of the world.

A French gentleman once had in his cellar some of the wine of this department, over 200 years old, made from the red Muscadine, which grape is highly esteemed for wine, on account of its strength and aroma.

In Gascony and Guienne, the most celebrated wines are the Medoc, Graves and Paulus, such being the product of different vineyards and districts. Thus, the Paulus vineyards are situated on the banks of the Garonne, near Chartons; the Medoc is from the vineyard of Latour, although the lightest and choicest is from the Lafitte vineyard, and the Graves wine is the product of the grape on the gravelly soil on the banks of the Garonne. These are regarded as the most perfect wines in France, and the highest price is paid for the red.

But, as a general rule, the wines of Southern France do not hold equal in quality to those of the Northern Departments, although in quantity the product is nearly double; and in a commercial point of view, as an agricultural value to France, the wine crop is only exceeded by the wheat.

The best of the Champagne wine is said to be made from a small green or whitish-yellow grape, although in that department both white and red grapes are cultivated, and white and red wines made of the most excellent quality.

In Burgundy, the true Burgundy grape of our graperies is that which produces the best wine in that Province. The berries are roundish, oval, average size, and deep black; juice, rich and sweet. The Black Frontignan is also much used in the South of France, and used in producing the Muscadine wine. Berries medium, round, and black.

The Royal Muscadine, or White Chasselas, is considered the second best white grape of France, and goes by a hundred names. The bunches are large and shoulered, berries large, of a greenish-white,

turning to amber color in the sun; flesh rich and delicious.

The Videlho, or Madeira wine grape is also cultivated in France, the bunches and berries of which are small, rich and excellent, semi-transparent; color, yellowish green.

The White Muscat and the White Frontignan are also cultivated in the South of France extensively; so are the Red or Grizzly, Frontignan, and Red Chasselas; but the White Shiraz, of Persian nativity, is the grape from which the celebrated white Hermitage wine is made, and is said to be the finest white grape in France, superior to the Royal Muscadine; whilst the red Shiraz is the grape from which the red Hermitage is produced, ranking side by side with the white. These are said to be small grapes, almost without seeds, and very delicate.

So much for a bird's-eye view of the wine and the grapes of La Belle France.

HOME CUTTINGS.

A happy New Year to you all, editors, contributors, and readers, and if in the past one single day has been spent in vain, let us in the present improve our industry, so that we will not only secure properly each fleeting moment, but redeem that which has been lost.

The stormy wind of January is howling around me as I am now writing; the vineyard looks bare and cold, the earth is covered with the frost of winter, and all is desolate and lone; but a few months, and Spring, with her mantle of green, will be clothing the orchard and the vineyard; the young buds will become alive again, and break forth into joy and rejoicing at the voice of Spring; and the air will become fragrant with the perfume of the vine-blossom, a welcome harbinger of a glorious vintage.

So may it be; but for these two years past, my vineyard has produced nothing but blossoms. True, the fruit has always set well; but the mildew and rot came and

destroyed the prospect, leaving nothing but the brown leaf and the unripened wood.

Well, be it so. I have again laid my choice vines down, and trimmed all of my more hardy. I have prepared for a year of hope and promise, and shall not despair, even although there should be no herd in the stall, and the vine should not yield its fruit.

My vineyard (*Catawba*) is about fifteen years old, and is planted on a gently-sloping hill, inclining to the east and south. My other grape vines range from one to six

years old; and I have a few of almost every variety of acknowledged merit. I have two seedlings—one blueish-black, and the other white—of promising appearance; both stood last year's rot and mildew unharmed, but were protected by a brick wall. I have left them out uncovered this winter, in order to test their durability; and if they are hardy as they are good, I know that I have a white grape superior to Dr. Grant's Anna, and a black, in bunch and berry, superior to the Concord.

NOTES ON THE MARCH NUMBER.

DISCOURSE OF WINTER.—A readable article, pleasant, but as I deal mostly in the plain practical adaptation of methods relating to subjects in moral life, and not much in sentiment, I must pass without further remark to the

DESIGN FOR A COUNTRY HOUSE.—Every thing that can help to elevate and improve a taste for rural architecture, and the pleasing embellishment of the house buildings, has my most hearty assent.

The design here given has much in its favor—but the author must permit me to question the adoption of such style for a level lot of 65 by 200 feet on a village street. To me there is much in association, and although it is said “contrast makes harmony,” I cannot harmonise pointed gables, etc., with flat and tame surroundings of scenery. In selecting the architectural features of a building, I think, the country surroundings should be carefully studied, and the architecture, as well as the grouping and style of trees to form its border and background sought for, and made to assimilate with the natural face of the immediate surrounding country.

I have never yet felt that a style of architecture, etc., suited to the bold, rocky, romantic character of the Hudson River Highlands, was equally adapted to a plain, level, sandy country.

With the interior arrangement of this plan I shall not quarrel, as it is well known hardly any two families have the same wants or actual uses of rooms. I will only say, that in designing some hundreds of more of houses, I have found nearly all to want a bed-room on the first or main floor, and that in small houses, in order to effect it, some one other room had to do double duty.

PEACH TREES IN POTS.—*Apropos* to the season—for unless we have peaches grow in pots, under glass, I fear me, we shall have none this year. As our country increases in wealth, more and more attention will naturally be given to the luxurios; and what among all the luxurios surpasses that of having the rich fruits of the earth in a ripe and perfect condition always at command?

The writer of this article has so plainly given the course to be pursued, that it would seem any one of ordinary sense could take it up with success. Orchard houses and winter garden conservatories—not greenhouses,—I hope to see increase rapidly; because our country has wealth to support them, and because a daily association with plant and fruit tree, summer and winter, refines and improves the mind.

THE CurrANT WORM.—A good description—but will not syringing the plants destroy the worm? It is so said. I have

never had any trouble with the worm, although I have over a thousand bearing currant bushes.

ANTIRRHINUM, Silver Belt, NEW SEEDLING CARNATIONS, NEW PEAR—MARY, AND THE READING PEAR.—Here we have a list of native Americans of no mean pretensions, and deserving the attention of every amateur flower or fruit grower.

PLAN FOR IMPROVEMENT OF GROUNDS.—In the main features the designer has been very successful, and I have no doubt, the place as he left it, would hardly be recognized by one who knew it ere he put "his cannie hand" upon it. It is so much easier to criticise than to create, that I must beg pardon when taking the liberty of saying that the group made to screen the stable yard from view on the approach, does not appear as effectual. I should have made but one entrance to the approach from the stable, and thrown in my trees, etc., so that no direct view could be had of the stable from that road.

DIAGONAL TRAINING IN VINEYARD CULTURE.—We are fast growing to be a grape growing country, and at this time, when hundreds of thousands of vines are being planted, it is doubted by many, whether any present work or general writing on grape training, etc., is "*just the thing.*" The diagonal training is an old practice, and in the renewal course of many of our Western vineyards is often adopted. Mr. Balch may, however, give us something new, and we therefore wait, ere further remark.

What we now want is a small, practical work, taking each distinct variety of grape, designating the soil best suited to it, and giving modes and their results of training and pruning—for while one practice and soil may suit Delaware, it is well known the same practice and soil does not equally well with Isabella, etc. He who prepares such a hand-book as, to me appears, now wanted by the people, has no light task to perform; for he must be well acquainted with all varieties of hardy grapes, and have been with them in varied soils, and observed many modes of pruning.

GARDENS AND PARKS OF GERMANY.—I have nothing to add, only that I read these descriptions with pleasure and instruction.

GREENLY PRIZES.—A difficult task had that committee, and as they are all honorable men, and good judges of fruits, it is hoped they are satisfied with their own work. Of one thing they may rest assured the fruits recommended are reliable, and cannot fail to please the growers over a large portion of our country; but there are persons who may be permitted to doubt the infallibility of any list of fruits to plant in all the varied localities and soils of our States. I am one of those persons, and while I concede favor to any man who shall aid public good, I must think corrected list of fruits, made by old practical fruit growers, in various section of the country, are more to be valued by the tree planter of those sections, than any premium award like the Greely one.

REUBEN.

SHOULD PLANTS BE "CROCKED."

BY PETER HENDERSON.

I SEE I am taken to task for my opinion on this matter by my friend, Mr. Cowan. I am glad that he questions the propriety of my practice, as it gives me an opportunity to state another reason or two against what I believe to be a useless and absurd

waste of labor, in using the so-called "drainage" in pots, even in growing Mr. Cowan's Azaleas, Camellias, Heaths, Acacias, or Terrestrial Orchids. I have grown *all* of these (with the exception of the orchids) without "drainage," and have had

them in as fine condition 'as ever I had roses or soft-wooded plants by the same method; and how I grow these, many of the readers of the *HORTICULTURIST* can decide.

I am astonished that Mr. Cowan should cite terrestrial orchids as plants that could not be grown without the inevitable pot-shred. He surely remembers that, in his botanizing days, *Orchis Maculata*, *Listera*, *Liparis*, &c., &c., grew in *mashes* in the British Isles; and if he ever indulged in the science on this side of the Atlantic, found *Platanthera*, *Calopogon*, *Arethusa*, and many other *terrestrial* orchids only in the *swamps*. Then, in the name of common sense, why does he think it indispensable to grow his *Bletias*, *Calanthes*, *Cypripediums*, &c., without "drainage?" for it requires but little botanical analogy to know that they, too, have their habitat in the swamps of the tropics. I have no doubt whatever that Mr. C. grows all these varieties finely, as he does everything else that comes under his hands; but he must look to some other and better reason for his success than the few pieces of broken pots or charcoal that he has placed in the bottom of the pots.

I once knew an old gardener that, when he put in his cuttings of carnations or pinks, always put in a single grain of oats with each. The oats grew, and so usually did his cuttings; and great credit was given to the oats for their agency in producing the desired result. This practice is not quite so common as that of "pot-draining," but I do not believe it to be one whit more useless or absurd.

The great misapprehension is, I think, in where the soil is drained from. Mr. C. does not mean to say, surely, that *all* the superfluous moisture is carried off from the bottom of the pot. He can satisfy himself about this with a simple experiment. Let him take a plant, say in an 8-inch pot, that is in a condition requiring water; let him pour in, say a pint, or as much as it will take; let him observe what proportion of the water is absorbed by the soil, and what

proportion has drained through the bottom. I think he will find that but a very small portion, if any, will pass through the drain hole. Now, I contend—and this is the gist of the whole argument—the drainage of the soil is through the porous sides of the pot, and not through the bottom, as that portion is usually excluded from the air, in consequence of its resting on its bed of sand or ashes, or on the board of the bench. Did we grow our plants in glass or glazed pots, then drainage might assist, as the water would have only one point of escape; but we don't do this, and our porous earthen pots give many hundreds of drain holes in each.

Mr. Cowan anticipates for me a "whipping," for my radical views in matters horticultural, from the English journals. I truly believe that my veneration for the opinion or the practice of our English cousins is not so great as that of Mr. C.; for I believe that, in many practical working operations, they are far behind us, particularly in commercial gardening. Have we any nurseries, not only in England, but in Europe, worked as cheaply, profitably, and well as those of Rochester? Or any grapevines that ever excelled (on such a large scale) those under the supervision of Mr. Ellis, of Hart's Corners? I think not; and yet, in the practice of both, you will find far more radical changes than that which I advocate in the culture of plants in pots.

Even the famed market gardeners of London might take a few profitable lessons from those in the neighborhood of New York.—For example, all their gardens are worked by the spade, a plough and harrow would be like sacrilege in a London market garden—I have no doubt Mr. Cowan would view it as such in his—yet I have worked nearly thirty acres in market gardens for upwards of eighteen years, and have long ago come to the conclusion that the plough and harrow are far better pulverizers of the soil than the spade; and if Mr. C. has any doubts on this subject, I extend him an invitation—not to see orchids, for I have none

of these—but to compare our vegetable crops with those in his gardens at Matteawan, which I have no doubt are religiously worked with the spade.

It is wonderful with what tenacity the human mind adheres to custom, no matter how obvious its absurdity is shown to be.

Chambers tells us that in the year 1720, in an isolated community in the south of Ireland, the only known manner of attach-

ing horses to the plough was by the tail; and that, when this barbarous practice was stopped by legislative enactment, a serious riot ensued.

I think it very likely that if Mr. Cowan had been an Irishman, and lived in 1720, he would have sought desperately for his "rights" in doing what he pleased with his "oun baste."

South Bergen, N. J.

NOTES ON GRAPE CULTURE.

BY H. L. YOUNG.

HAVING taken considerable interest in the cultivation of the vine, and having for a few years past occupied myself in the care of a small vineyard, I send you some observations on grape-culture as I have found it in my experience.

The vines are mostly Concords, planted upon the southerly slope of a low hill, and looking a little to the southeast. I have in addition a few vines of each of the newer kinds that are competitors for public favor. My soil is a clayey loam, underlaid by rock; in making the borders for the vines I was obliged in several places to excavate this slaty rock in order to obtain a sufficient depth for the plants. Towards the foot of the hill I have some Concords in a soil both deep and rich, and inclining to moisture. I have found that vines on a dry sub-soil, though it may be shallow, do far better than those which enjoy a rich soil, but moist. I would not ordinarily attempt to raise the later grapes, such as the Concord, Isabella, and Catawba, unless entire exemption from moisture could be secured. My crop last year was a good one—I may say very good, considering the tendency to mildew, which so generally prevailed along the line of the Hudson, from Poughkeepsie and vicinity south to New York, and through portions of New Jersey. I did not suffer at all on my grounds from the mildew of the leaf, and

but little from the mildew of the berry. My Catawbas, however, were much affected by the rot; those in the garden, on vines growing in a soil enriched by a deep and thorough culture, were totally ruined. Two or three vines on the stony hillside produced as sweet and as beautiful specimens of this grape as I think the West could furnish. Could such a product be relied upon every year, with any degree of certainty, I doubt if any new sort could supplant the Catawba as a late grape. During previous years I have had the rot to a small extent on the vines last mentioned—that is, on the hill—but never to the extent that it has appeared on those spoken of as in the garden. I should here mention a Catawba vine which I have running high up into two cherry trees, which, although growing in a very rich and moist soil, nevertheless perfects its fruit almost every year. It is true the bunches are small, and the berries are not very thick on the bunch, nor are they of very large size, but still the grapes are, on the whole, quite fair. For several seasons I had attempted to confine this vine to a trellis, but finally its vigorous growth carried it to the neighboring trees, and I let it go. While it was confined to the trellis I never obtained any ripe grapes; the rot always destroyed the fruit before maturity. Since reaching the trees it has produced good fruit quite regu-

larly. I attribute the change to the greater degree of light and air obtained among the branches of the tree, and it may be owing also to the greater height of the fruit above the damp air which rests at times for a few feet above the surface of the earth, increasing in density as it approaches the ground. I intend to try still further this experiment of planting the Catawba by trees, and with this view I have just transplanted two vines from the garden into a dry, rich soil by the side of trees. This transplanting I have accomplished by means of a frozen ball of earth attached to the roots, just as we now commonly transplant trees in winter. In this way a vigorous vine is obtained and made to grow where a young and feeble vine might not readily succeed—that is, under or very near the shade of a tree. I transplanted in this manner, three or four winters ago, two Concord vines, and upon these I have raised since some of my best fruit. This is an excellent way of transplanting layers. I would not advise planting by a tree any variety of grape subject to depredation by birds. I had a Northern Muscadine vine trained on a plum tree; depending from the tree on every side, and thick with reddening clusters, it was a beautiful sight but as the grapes ripened, the birds were attracted to them, and no amount of attention was sufficient to prevent the almost entire loss of the crop; hardly a perfect bunch was left: but more of the birds hereafter.

I used last season on some of my vines the bellows for throwing sulphur, recommended in the March number of the *HORTICULTURIST*, 1865, by *Horticola*. I prefaced the use of the sulphur, with the wash composed of a solution of salt, saltpetre, etc., according to the directions. The vines were dusted with the sulphur four times, beginning with the appearance of the leaves, and ceasing at the time the berries began to color. I had no mildew of the leaf on any of my vines. There was a trellis of Isabellas, which re-

ceived one coating of sulphur late in the season, and many Concords which were not dusted at all; the leaves on these also remained perfect, as well as the leaves on the vines thoroughly treated. My Delaware vines retained their foliage until the last, and the fruit matured; the crop however was not abundant, and the vines themselves not very vigorous.

Some cultivators in my vicinity lost the leaves of their Delawares from mildew very early, and of the masses of handsome fruit which hung on their vines, only a portion colored well; the remainder refused to color or to become sweet.

Whether it was the paucity of fruit, or the use of the sulphur, or a fortunate location of my vines that caused them to retain their foliage I cannot say. I am inclined to give credit to the sulphur, and shall continue its use next season.

In the article in the *HORTICULTURIST*, already referred to, it is stated that a lady had saved her gooseberries from mildew by the use of the bellows. I tried the experiment on my gooseberries soon after they had formed on the trees; the result was not very satisfactory; most of the berries and many of the younger leaves it is true were saved from mildew, but only by being killed before the blight had a chance to show itself; the sulphur had proved too strong for them; the very few gooseberries that survived the treatment ripened free from disease. I had almost forgotten to say that the sulphur did prevent the ravages of the thrips; of this I am confident; it was only at the close of the season, when sulphur had been discontinued, that these insects began to show themselves.

About the 7th of July, I found on several of my Concord vines a number of bunches of young grapes, covered alike on stem and berry, with a greenish-white mildew; the leaves of the vine were as fair as usual. Up to this time these vines had not received any sulphur. I commenced the dusting at once, rendering those branches and the adjacent leaves yellow with the sulphurous

deposit. I repeated this twice afterwards; the mildew did not extend beyond where I first saw it, but the bunches affected were not cured; they colored and ripened after a fashion, but on the slightest movement of the vine the berries would drop from the stem in numbers, and the ground would be covered with them. On one luxuriant vine the south half was badly mildewed, while the north half, trained along the same trellis, and growing under precisely the same circumstances, produced fine, healthy fruit. As these mildewed branches showed themselves where the vines were thickly planted, and the leaves formed a somewhat dense covering, and as they were withal within two or three feet of the ground, I concluded that a want of proper ventilation and obstruction of the sunlight might have induced the disease. I have no doubt but these circumstances do serve to favor its propagation, if they do not originate it. On the 22d of July, I found this same mildew of the berry prevailing in a large vineyard of Concordas, where the disease could not be traced to any of the causes above described. These vines were on the grounds of Messrs. H. & J. Carpenter, about a mile and a half from me. They were situated on a gravelly knoll, in the midst of a large field, away from any trees, and were trained on poles, with ample room for light and air, yet under these circumstances, a crop of perhaps a thousand pounds or more, was ruined by mildew. I saw the vineyard again in the fall, the ground under the vines was strewed with the falling grapes, which, although diseased, had up to this late period remained upon the vines and had colored, but now dropping from the stem were without flavor and worthless. For several previous years these vines had been free from every disease, and had borne splendid crops of grapes. No manure of a stimulating character had been used. Since setting out the plants, bone dust has been the only manure applied, and that not abundantly. How could this disease have appeared under such conditions if not through some atmospheric influence, yet eluding the search of our cultivators?

On the appearance of this mildew the Messrs. C. had applied a solution, or rather a mixture of sulphur and lime in water, but apparently with little or no effect in removing the disease. The foliage of these vines did not have a healthy look; the want of a bright green color to the leaves was visible at some distance, yet they were not so affected as to drop off.

Although mildew did not effect my berries materially, my crop of Concordas was diminished somewhat from several other causes. There was a species of rot prevalent to a small extent, and distinguished by a yellowish rusty spot on the berry, as though it had been scalded by the sun, though I do not think it was thus caused. Another kind of rot prevailed, which caused a premature coloring of the berry; in this case the berry hardened, instead of becoming softer, and at the time of ripening was red in color and had to be cut out of the bunch when picked for market. This rot, if it may be so called, showed itself in spoiling single berries on the bunch; sometimes one or two on a bunch, at other times many more. Large bunches of grapes were thus reduced by the necessary thinning out to very small specimens. I think this difficulty occurs during the same kind of weather that seems often to generate the rot on the Catawba. I mean the hot, close weather, which with alternate sun and shower brings out rust upon wheat.

My crop of Concordas was also shortened by the splitting of the thin skin that envelopes this grape; this happens often just at the point of connection with the stem, and is not perceived until the berry is found to lose its fullness, and to dry up. In picking for market, many berries thus split have to be removed.

The birds also inflicted much damage, perhaps as much as was caused by any two of the agencies I have just mentioned. I suppose I am more of a sufferer in this way than many others, because my grounds are thickly planted with trees, and these in groves, and adjacent to the vineyard. The determination of the birds to regale them-

selves on my choicest Delawares, Dianas, Concourses was most persistent. In my first experience in this line, I merely frightened the birds away from the vines, but this was a lenity for which I dearly paid. I constantly found my choicest bunches of grapes one after another turned into unsightly masses of decaying fruit, and the crop daily diminishing from the attack of these intruders.

I was unable to save any superior bunches for exhibition, until I finally covered a few with bags made of coarse millinet, and this protected them. After several seasons of trial I have at last resorted to the gun as the best mode of defence. I do not mean merely the exhibition of this instrument as a terror to evil doers, but something more: I mean its use for the actual destruction of all predators. I know some will deem the treatment harsh and cruel. If so, then we must give up the cultivation of the earlier and sweeter grapes, or else discover some other means for the constant and effectual expulsion of the depredating birds. Two gentlemen of my acquaintance set up scarecrows among their vines; these were found serviceable, at least for a time, but they are not practicable on a large scale, as they would have to be distributed at frequent intervals along the trellises.

As for driving away the birds by the throwing of stones at them, it is useless to attempt it; made to fly from one corner of the vineyard, they will alight in another; then, if pursued, they will most likely take refuge in the place whence they were at first expelled, and so back and forth, until the discomfited pursuer is breathless and disheartened, or if the birds fly from the vines into neighboring trees, the wily thieves will wait there, until the back of the vineyardist is turned, and then swoop down again to renew the feast with an appetite only sharpened by the temporary interruption. If you wish to save your choice and early grapes for your own eating, rather than furnish delicate food for the fowls of the air, early in the morning light seize your gun, rush out, and lay low the very first bird

found perching on your trellises, or covertly flitting from row to row under the vine leaves. But, hold, I should not say every bird; I do not think I ever saw the wren, or the blue bird, or chipping bird, or the yellow bird guilty of this wasteful foraging; but if you see under these circumstances a cat bird, a robin, or an oriole, forget for a moment their sweet songs of a spring morning, and shoot; it is hard, I acknowledge, but to lose all your grapes right before your eyes is still harder.

In addition to the kinds of grapes already named, suffering from the rapacity of the birds, add the Hartford Prolific, and I may perhaps say, all of the very early grapes. The Isabellas are rarely touched, except by an occasional flock of robins; the Catawbas never. A gentleman living within the limits of this city, where we do not ordinarily look for many birds, told me, last summer, that he should give up the cultivation of the Elsingburgh, among the many varieties that he raised, solely on account of the impossibility of obtaining any fruit of this sort; the birds devoured or destroyed the whole of it. Others in this vicinity picked their grapes before they had fairly matured, in order to save them from total destruction by the marauders.

Some cultivators complain of the bees and the wasps injuring their crops; I am inclined to think, from my observation, that as long as the grape berry is sound, it is impermeable to the attacks of these insects; but as soon as a Delaware or a Concord splits, as they both will at times, or as soon as they are punctured by the bills of birds, the juice exudes, and then the wasps and bees, with the flies, all congregate to feast on the unimprisoned sweets. I could always tell on my vines where the birds had been at work, by the activity of these insects in the immediate neighborhood. I am aware that wasps destroy blackberries, and injure pears and peaches, but in these fruits, there is always a soft place frequently of initial decay, which gives opportunity for the first perforation, and

the work is continued by undermining the skin and consuming the tender flesh beneath. The enveloping skin of the grape is equally hard and tough at all points. I speak of our out door grapes; those grown under glass, with a tender skin, may possibly be liable to injury from wasps.

These insects, then, do not originate injury, but only continue it; coming to feed where some operation of nature, or the art of a bird, has already opened for them in a fountain of sweet juice, a most inviting entertainment.

My rambling notes are perhaps already extended, but as a part of my experience I would like to add the fact, that out of twelve or thirteen or more varieties of grape cultivated by me, I find that Rogers No. 15 exceeds them all in high aromatic flavor, so

much so, that the finest Concord tasted after it, is tame and vapid. I tried this experiment on several visitors to my vineyard last summer, and they all acquiesced in this opinion.

This grape has not the delicate juices of the Delaware, but, on the other hand, it has a sweet, tender and meaty pulp, highly flavored, and at once reminding the taster of the Black Hamburg grape, from which variety it is said to have been in part derived. The vine itself is vigorous and hardy, and has the merit of retaining its foliage in perfection, an advantage not to be despised, where the Delaware is apt to cast its leaves before maturing its fruit, and of which fact I saw many instances last season.

Po'keepsie, Feb'y 1st, 1866.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. WOODWARD, 37 Park Row, New York.

We have just published, at this office, new and revised editions of Jacques' popular manuals of THE GARDEN, THE FARM, THE BARN-YARD, and THE HOUSE.—These treat very thoroughly the subjects named, have been carefully prepared and revised by a popular writer, and we commend them to our readers as valuable additions to their libraries. Sent, post paid, on receipt of price. THE GARDEN, FARM, and BARN YARD, \$1 each; THE HOUSE, \$1.50.

EARLY DISBUDGING THE GRAPE.—The old saying of "a stitch in time," etc., is strictly applicable in training the grape vine. As soon as the buds have grown to four inches, they should be carefully looked over, and all shoots rubbed off except such as are wanted to grow and leave the vine in good shape for another year. In vine-

yard culture, the shoots to be left, for new and fruiting canes the following year, will vary from one to three, according to the strength and vigor of the root. In the spur practice, buds for new canes are only to be left where an arm or upright is needed to fill up, or some old one renewed. The pruning of the grape vine is really simplicity itself, notwithstanding so much, *pro and con.*, written upon it. If care is given to disbudding at the right time,—that is, before the shoots have made over 4 inches (better even less) growth, and a little common sense as to how much nature can endure, and keep healthy, in the way of wood and fruit, the pruning of a vine would require little use of anything but thumb and finger.

FAILURE OF CUTTINGS TO GROW.—We believe many grape and other cuttings fail

to grow because of too long drying, or being out of the ground from the time of cutting from the vine or bush, until planting out. In our practice, we have rarely lost a cutting whenever we put it in sand or earth immediately after taking it from the parent plant. When we have received cuttings too dry to please us, we have practised laying them horizontally under ground about four inches deep, in a well-drained place, and then frequently saturating the ground with water. We thus keep them wet, and the wood and buds swell alike evenly, while the well-drained or sandy land prevents any standing water.

REMEMBER to pluck off any fruit that may set on a newly transplanted tree or vine. If left to perfect, it will be at the expense of healthy, vigorous growth of the plants, and corresponding depreciation in quantity and quality of fruit the next season.

GRAPE-HOUSES.—When the roots are entire inside, it is better to thoroughly saturate the ground once a week, or as often as necessary, than to be dribbling on water daily. With good drainage, the former course wets and stimulates all the roots alike, while the latter only gives but half a drink to those near the surface. With good, vigorous, healthy roots, no failures need occur in growing grapes inside.

DAHLIAS AND DOUBLE HOLLYHOCKS form elegant features as backgrounds to a flower border, and masses of them, at intervals, on the sides of approach roads, are very pleasing, and help to give variety and charm to the grounds. In planting out the dahlias, use but one stem at a place; set them about three feet apart, and as they grow, pinch back, so as to make them grow more like bushes than trees. The waste water from the kitchen—soap-suds, &c., is one of the best manures for the Dahlia.

Hollyhocks have come to be equally

beautiful in flower as the Dahlia; and, as they can be left in the ground, will probably become more and more in vogue. They should be transplanted and divided, about once in two years.

CHOICE OF ROSES.—Although the Hybrid Perpetual Roses give blooms more or less during the season, and are perfectly hardy, so that they may be left out all winter, yet the beauty of a rose-bed—one where buds and blossoms may daily be gathered—will be found to consist in having a large proportion of Teas, Bengals and Bourbons. Novelties, i.e., new varieties, are brought out each season, one or more of which every amateur is expected to buy; but of the old sorts that have proved good with us we name—Adam, Bougere, Caroline, Sombreuil, and Cels, as of Teas; Agrippina, Louis Philippe, and Lady Byron, as of Bengals; Bosanquet, Hermosa, Souvenir Malmaison, and Paul Joseph, as of the Bourbons. There are many others, perhaps, equally good, perhaps, better, but the above small list embraces those that have always given us pleasure, as good growers and free bloomers.

FLOWERING SHRUBS, such as Weigela, and others that flower on the preceding year's growth, should be trimmed back immediately after they have done flowering in June. By so doing, the plants can be kept in just such shape as may be desired by the operator.

Roses, as soon as the flowers have opened and bloomed one day, should have the decaying flower cut away; cutting back to a good strong bud, from which will come a new stem and flowers. Attention to this practice of cutting will keep plants blooming almost continuously.

THE WHITE SUGAR BEET, if grown in ground not too rich, we have found more delicate for the table than any other variety, if we except the Bassano.

BEDS, OR BORDERS, where Tulips, Hyacinths, &c., are grown, may be planted with verbenas and other bedding out plants, taking care to so plant that when the time—August—comes for taking up the bulbs, the roots of the bedding plant may not be disturbed.

WHEN TRANSPLANTING Tomatoes, Egg Plants, &c., set the roots in a pan of muddy water. Perform the work just before sundown, and few will fail. If the following day is a very clear, hot and sunny one, then it is best to shade them during the heat. Shingles, stuck on the south and west side, answer well.

THOSE who have peach trees should not fail to cut them back this spring, and so cause them to throw out new and vigorous shoots, and give improved shape to the tree. Do not cut, however, until about the usual time for the peach to bloom, but then head back severely. Old and scrawny trees will bear to be cut nearly back to mere stubs, or with limbs only one to two feet long.

FRUIT TREES should be carefully looked over in April and May, and the webs or cocoons of insects destroyed. Any appearance of black knot on young trees should be cut away. If the coccus or scale insect shows itself, wash the bodies at once with strong ley and sulphur. Some advise a wash of salt brine all over the tree at this time; we have never tried it, and therefore cannot speak knowingly of it, but intend to be able to do so another year.

THE PERSIMMON.—The tree of the Persimmon is one of the most beautiful in its habits of growth, as well as in the glossy character of its foliage; but, aside from its beauty and adaptation as an ornamental tree on lawn or road side, its fruit is very delicious. Many are under the impression that persimmons are utterly unfit to eat, and the expression "as puckery as a persimmon" is used to decry any acid sub-

stance; but such expression does injustice to the persimmon, which varies as much in its fruit, as a like number of apples and pears. In Southern Illinois, Missouri, and elsewhere, there are many trees of persimmons that ripen their fruits in August and September. Seeds of such should be obtained, if to be grown from seed, but if young trees can be obtained, it is better to engraft with scions from trees known to produce large fruit, and that ripen early in the season. The late ripening sorts are many of them good, and if left on the trees until midwinter are almost as good as bananas, or pawpaws, which they nearest resemble in taste.

THE PEACH WORM—*Egeria Extitiosa*.—May be prevented from doing much injury to the peach tree, by clearing away the dirt, say four inches deep at the crown of the root, and painting it six inches up on the body of the tree, with coal or gas tar; but the work must be done before the leaf starts.

GRAPE CUTTINGS.—For some years we have grown more or less of grape cuttings from single eyes, in the open ground; we first prepare the ground, by trenching and enriching; then our eyes are cut, with about one and a half inch of wood below the bud, and about half an inch above; we set our eyes carefully, in an erect position, and cover nearly an inch with the fine soil; then we add about three inches of a light mulch, saw-dust, or fine chopped straw and saw-dust mixed; water thoroughly, if it does not rain about the time of planting—and afterward we look over our beds from time to time, and whenever they appear dry we water; but in most seasons this part of the work is only on paper; occasionally we have had to do it, and only name it here because success depends on keeping an even state of moisture in and around the cuttings; others may not succeed as we have, but any one can try it.

NEW STRAWBERRIES.—We have had our day of enthusiasm on new plants, fruits, etc., and especially have we "gone it" on strawberries; our experience, therefore, may perhaps cause us to be now more than careful ere we dictate on the "wonderful" qualities of new sorts, as they are from time to time being introduced. The present season, perhaps, as many or more new varieties are being offered for sale than usual, and while it may be well for the amateur to try all, the owner of a garden spot, wherein he designs to grow strawberries for their fruit, had best confine himself to some two or so of leading well known kinds, that all acknowledge to be good in their fruit, vigorous of vine, and productive of quantity. To select these sorts it is only requisite to look into a few of your neighbor's gardens, and use the Yankee's privilege of asking a question.

PEAS soaked twenty-four hours in urine, then dried off in ashes or plaster, are said to come forward much earlier, and stronger than when planted in a dry state.

OYSTER PLANT OR SALSIFY—Remember, that to grow this plant well, it requires a deep and rich soil. Sow the seed pretty thick, and after the plants are up two inches high, thin out to one in about four to six inches in the row, with the rows one foot apart. No Vegetable is more delicate or attractive to the palate in early spring than the salsify, when it is well grown and well cooked—every garden should have a bed of it.

GRAFTING OR SPRING BUDDING THE PEACH.—When a new variety is obtained in spring, with some doubt of the tree living, or when trees budded last fall have failed to unite, it may be desirable to graft or bud in spring; to do this, cut the grafts and place them in the cellar about ten days before you design to perform the work; then use a graft or cutting of two buds, on a lateral, inserting it as in bud-

ing, and tie with bass matting as usual in budding; or form a graft of two eyes, as for a pear or apple, inserting it as described in the books for side grafting, and immediately tie the branch above, over in the form of an arc. If the branch on which you engraft is too large to bend over easily, then cut it off at once, about six to eight inches above the insertion of the graft.

STRAWBERRY.—Vines, planted at this season of the year and mulched, will often give a partial crop of fruit—are very sure to live and grow, and increase during the summer; so that vines now planted three feet apart each way, will by fall nearly cover the entire ground. Spade or plow the ground as deep as possible, say nine to twelve inches, rake level, and plant. Moderately rich ground is better than either very rich soil, or that which is poor. Too rich a soil causes the plants to make too many runners and new plants, at a loss of fruit, while too poor ground gives a feeble growth of vine, and a small fruit. If manure is used to enrich, it should be old and well rotted.

CELERY.—The seed of celery should be but barely pressed into the mold, and then a board laid upon it, say for forty-eight hours; afterwards raise the board up, say about two inches, and keep the celery shaded until it has grown an inch, when the shade should be removed, except in the middle of the day. It is not necessary to have a hot bed in which to grow celery plants for next winter's use; but if you have a gentle bottom heat from a spent hot bed, all the better. Many burn their seeds and young plants by using too strong a bottom heat.

When transplanting to the rows for permanent growth, trenches may or may not be made. We have grown just as good celery plants, when planted on level ground—soil having first been made deep and loose,—as we have in trenches.

SALT we have found one of the best manures; use at the rate of eight bushels to the acre, or, if you have animal manure which you design to apply to your celery ground, use half the quantity in proportion, diluted and poured on, and mixed up with the manure before applying it on the land.

PLASTER PARIS.—Gypsum is extremely beneficial on every garden where animal manures have been applied for years. If your garden soil was last year pretty full of worms, leave off the dressing of animal manure this year, and apply at the rate of four bushels of salt, and one and a half of plaster per acre.

THE LINNCEUS WINE PLANT is one of the numerous barefaced impositions of the day, which is receiving merited exposure in various quarters. This wine plant, as it is called, is nothing but the common garden rhubarb, and yet it is sold, by itinerant swindlers, by tens of thousand dollars worth, in various parts of the country—The American Institute Farmers' Club have tested the liquor made from it, and pronounce it "a nauseous, unwholesome compound of acid and sugar, partly converted into rum, as unlike wine as those who sell the plants are unlike honest men."

WE ARE always interested and gratified in hearing of anything new in the way of material for hedges. While the necessity exists for every man's fencing out his neighbor's stock, every plant that will form a live fence, in the place of the costly and unsightly rails, and boards and posts, which now encumber our lawns and fields, is valuable, not only in an esthetic, but in an economical point of view. The annual cost of fencing the farms of the United States would soon pay the national debt, large as that is. The desideratum for live fences is, to find a hedge-plant that shall be perfectly hardy, easy to propagate, and that shall afford protection against the intrusive propen-

sities of cattle and other animals. It is said that the common barberry (*barberis vulgaris*) combines these qualities in a noteworthy degree. The barberry is indigenous to the northern parts of Europe and Asia, but has become thoroughly naturalized—like many other foreigners—to the American soil.—The *Wallingford Circular* speaks in high terms of the barberry as a hedge-plant, and notes in its favor its "habit of sending up suckers from the bottom, by which, in a few years, it comes to have a base from six to twelve inches in diameter." It occurs to us that this "habit of sending up suckers" might become troublesome in the neighboring lawn or garden. However this may be, the barberry is worth testing for hedges.

OUR CORRESPONDENT who inquires as to the expediency of plowing up his lawn, on account of the running out of the grass, is informed that there is a remedy for this difficulty, without the necessity of any such inconvenience as is suggested. The fertility of the lawn may be restored and preserved by thorough top-dressing. Use for this purpose stable manure, bone dust, plaster, muck, ashes—whatever the soil seems most to need to restore and enrich. The lawn should be, of course, properly underdrained, and then, with judicious treatment in top-dressing, rolling, and mowing, it may be kept perpetually in the finest condition.

THE GARDENER'S CHRONICLE (Eng.) recommends the planting of snowdrops in masses on lawns, and tells us that the effect in early spring is admirable. The roots are planted in the green sward, and on the melting of the snow, before the grass starts so as to conceal them, they burst forth into full bloom. The leaves of the snowdrop are formed early in the season, and before the grass requires to be cut they have performed their functions. The bulbs, therefore, lie securely under the surface ready to start up into beauty the following spring. We should be pleased to see this experiment tried on some of our beautiful lawns.

AN ELEGANT testimonial, in the shape of a gold medal, has been presented to an American savant, Townsend Glover, Esq., by the French Emperor. The occasion was an exposition at the Palais d'Industrie, in Paris, of useful and injurious insects. Mr. Glover has been employed for some time in the Department of Agriculture at Washington. He is well skilled in the science of Entomology, and his researches and labors in the interests of Pomology have been of great value to horticulture. On the occasion of the French Exposition, his contributions to the knowledge of insects injurious to horticulture, &c., gained him the Imperial gold medal. It is an honorable distinction for our country to be so represented among European savants in the walks of science.

THE APPLICATION of manure to fruit trees should be made with a view to feed the roots and not the trunk. We often see a heap of compost, or some sort of fertilizer, piled up around the foot of the stem, where it can do very little good. Fruit trees of six or eight feet in length extend their roots about the same distance on every side. The fertilizer should, therefore, be spread over that amount of surface, worked into the top of the soil, so that its stimulus may reach the roots and rootlets, and so supply nourishment to the tree.

HOVEY'S MAGAZINE, in a notice of the chief publications on horticultural subjects which appeared during the past year, thus speaks kindly and genially of the two works which have been issued from our office:—"WOODWARD'S GRAPERIES AND HORTICULTURAL BUILDINGS, an excellent volume, giving a variety of information in regard to the constructing, warming, &c., of such structures; also, WOODWARD'S COUNTRY HOMES, a work which may be read to advantage by all who are about building in the country."

CALADIUMS, to our fancy, are not particularly ornamental as house plants in winter, except to hide the nakedness of the greenhouse; but if they are massed in the grounds, they grow so large and tall, and their foliage is so strong, that make a very distinctive feature in the grounds, and are ornamentals. They be taken up in the Fall, and kept in little or no care, in a cellar that is free of frost.

WE OBSERVE that the Massachusetts Horticultural Society has made an appropriation of \$3,100 for premiums during the year, to be divided between flowers, fruits, and vegetables. We hope the New York Society doing the same competition and encourage horticulture.

BOOKS, CATALOGUES, AND PHELETS RECEIVED

RURAL AFFAIRS.—We have received IV of this welcome publication. Useful information to those who have a garden to cultivate is to be found in the pages. Published by L. Tuck, Albany. Price, \$1.50....Transactions of the Illinois State Horticultural Society....Transactions of the Agricultural Society of the County of Plymouth, Mass....John W. Adams, Portland, Mass., greens and General Nursery Stock....Fancher, Catalogue of Grapes....Henry A. Dreer, Philadelphia, Pa., Seeds....G. Marc, Astoria, Long Island, Hardy Plants....E. Ferrand, Grand Rapids, Mich., French Hybrid Gladiolus....C. Teas, Rayville, Indiana, Rayville Nursery....E. Y. Teas & Br., Indianapolis, Indiana, Nursery Stock....John Washington, D. C., Catalogue of Plants....Prince & Co., Flushing, L. I., Grap-

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JUNE, 1866.

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THE
HORTICULTURIST.

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VENTILATION.

BY A. D. G.

If we mistake not, this subject has already been touched upon in books and papers, but perhaps it will bear another citing. Much as has been said about it, few persons are sensible of its importance. Many are careful to provide excellent food and clothing for themselves and their families; their houses must be handsome and filled with elegant furniture, but as to the quality of the air they inhale, they give themselves little concern.

Providence has surrounded us with an ocean of pure air fifty miles deep, but we bottle up a portion of it and seclude ourselves within it, rendering it poisonous, and then ask one another if this is not domestic comfort? If we exclude air entirely from the lungs longer than three minutes, death will surely follow, but impure air may be breathed for many years, and the patient continue to live. Bad air is a slow poison. That's the trouble; if it only did its work quicker, and in a more striking and conspicuous way, men might be deterred from

recklessly breathing it. Those who habitually inhale it are rendered insensible to the sweetness of a pure atmosphere; their taste becomes as vitiated as the air in which they dwell.

If any one doubts the importance of ventilation, we beg to remind him of a few facts. Science tells us that atmospheric air is composed of oxygen gas and nitrogen gas; the former being a supporter of combustion and of animal life, the latter not such a supporter, nor yet positively destructive of either; its office in the animal economy seeming to be to dilute the oxygen which in its pure state would act too powerfully on the system. In the process of respiration, while the nitrogen is given off from the lungs essentially unchanged, the oxygen unites with the carbon of the blood, forming carbonic acid—the same gas which is produced by burning charcoal in the open air—and this poisonous substance constantly being exhaled into the rooms we occupy, it would seem important to dispose of as soon

as possible. To this it might be added that more or less excrementitious matter passes off continually by insensible perspiration through the pores of the skin, which is of the same deleterious character, and urges the same plea for ventilation.

We are told, again, that "every twenty-four hours, there flows to the lungs sixty hogsheads of air, and thirty hogsheads of blood."* What is the design of this? To purify and vitalize the blood. Now, as the health of the body depends largely upon the purity of the blood, and this last upon the purity of the air, we may estimate the importance of looking well to the quality of what we every moment breathe.

And these conclusions of science are confirmed and illustrated by daily observation and experience. Whence come the pale and sallow faces, languid eyes, headaches, catarrhs, debility, coughs, and consumptions which we continually meet with? Whence, chiefly, except from long confinement in the unwholesome air of unventilated houses? And yet we wonder what can be the matter. Are not our dwellings warm and comfortable, and perhaps genteel? We Americans are less robust than our English cousins, men and women. Travelers from abroad, while acknowledging the delicate hot-house beauty of our young ladies; yet tell us our wives and daughters look sickly and frail beside the ruddy, round, elastic figures of their own fair ones. English women live more out of doors, and ventilate their houses better than we do.

In the great majority of our school-houses, work-shops, court-houses, hotels, railway-cars, concert-halls and churches, the air is unfit for breathing. As a general rule, the windows and doors are kept closed, and the oxygen of the air being rapidly consumed by the burning of many lamps and fires, and by the inspiration of numerous occupants, it is impossible for one to remain long in such places without serious injury to his health. Whence the nausea and headache next morning after concerts and lectures?

"Uses and Abuses of Air," by Dr. Grisebach, p. 28.

Whence much of the lassitude, listlessness and irritability of scholars and teachers? Whence the dullness of sermons and the drowsiness of congregations? True to life is the story of the old Scotch minister who, greatly troubled with the inattention of his auditors, preached to them a series of discourses on "The Sin and Shame o' Sleepin' in Kirks," but without any appreciable improvement of their manners; when, at length, ordering the sexton to partially open several windows during service, the result was all that he could desire.

Time was when our dwellings and public buildings were so constructed that ventilation came as a matter of course. The doors and windows rattled with their looseness. In private houses, the broad fire-place sucked up and carried off the foul air as fast as it was generated. Then, too, men and women lived much in the open air, and were not afraid of it. Now, we make our doors and windows air-tight; our rooms over heated by air-tight stoves and furnaces; fire-places are seldom seen, or are made for ornament, and closed up with fire-boards; and our food is cooked in air-tight kitchen stoves. These modern improvements cost us dearly, and must continue to do so until we conform more to the laws of health.

In suggesting a few hints as to the best methods of ventilation, the writer will speak only of those which may be applied in winter; for in summer, this matter will mostly take care of itself.

To provide fresh air for a dwelling-house, some would say, knock out a panel from every door, and a pane of glass from every window. Others, less heroic, would propose that every door be set ajar often during the day, and that rolling blinds be inserted in every fire-board, to be opened and closed at pleasure. It is an excellent arrangement, also, to insert a register, or a valve like Dr. Arnott's patent, in the chimney-breast near the ceiling, which can be controlled by a simple pulley and cord.

But it is important to bring in a constant supply of fresh air, as well as to expel that

which is vitiated by use, and to introduce it in such a way as not to let in also the influenza. When grates are used, it is customary sometimes to introduce a current of out-door air into a hollow space in the chimney, behind the fire, where it becomes warm before entering the room. But for the majority of country-houses, grates are the exception, and close stoves the general rule: how, then, can we ventilate rooms warmed by stoves? One simple method is this:—Surround a common iron stove with a neat Russia iron case, leaving a space of six inches between the two, and cover the whole at the top with an ornamental grating. Connect this apparatus with the air out of doors by a tin conductor four inches in diameter, leading from a cellar window along under the parlor floor, and then up through the floor into the open space before described. A damper should be inserted in this pipe, to regulate the amount of air brought in. By some arrangement like this, we can introduce a constant supply of pure air, which, when warmed in the air-chamber around the stove, will flow out in a genial current through the perforated top into the apartment. It is to be supposed, however, that a register or valve is also provided in the chimney flue for carrying off impure air as fast as fresh is brought in. The method thus stated, is the same in principle as "Clate's Patent Ventilating Stove," which is used in some of our large public schools.

The grate, or the close stove arranged in the above manner, will answer well when only one or two rooms are to be heated; but when a whole house or large public building is to be warmed and ventilated, The hot-air furnace will do the work better. (We speak not now of warming by steam or hot water: for these methods are too expensive for general adoption, and where used do not seem to give entire satisfaction.) The hot-air furnace, properly constructed, with gas-tight joints, and a large copper pan in the air-chamber for evaporating water, provides a constant supply of fresh,

summer-like air, and sends the wholesome current, hour after hour, through all the building.

It is, however, an essential requisite of this method of warming a house, that provision be made for a current of air to flow out of every room, as well as one to flow in. Indeed it is difficult to warm a house in this way, unless some such provision is made. Can you blow wind into a bottle, without first displacing an equal portion of the air within it? * Properly to ventilate a house warmed by a furnace, every room should be provided with a ventilator leading into the chimney-flue or into a ventiduct carried up by its side. For, if not so provided, not only will it be hard to force fresh air into the rooms, but that which is forced in will be drawn down again through the registers into the furnace-chamber, whence it will be returned again and again to the apartments for repeated respiration. This is continually occurring in multitudes of houses, and public buildings.

The opening referred to, for the escape of impure air, should be on the side of the room opposite to the register, and should be as near the floor as practicable. If it is made near the ceiling, the freshly-heated air rising at once to the top of the room will pass off through the ventilator and be lost, leaving the cold and impure air near the floor unwarmed and undisturbed; whereas, if the opening were made near the base of the chimney, then the newly-warmed air, after first rising to the ceiling, would descend and drive the cold air along the flue up the chimney or ventiduct, and so facilitate

* Soon after the erection of the splendid edifice for the Smithsonian Institute, it was found impossible to warm one of the large halls of the building, so as to make it comfortable. The windows and doors were made air-tight, and the large furnace in the basement was driven up to red heat. Still, the air in the lecture-room remained dull and cold—the thermometer indicating only from 45° to 50°. After some time, a man of common sense hearing of the difficulty, called for an auger and hand-saw, with which he soon cut a hole in one corner of the floor, about eighteen inches square. Immediately, there was a change in the air—heathful circulation commenced, and in half an hour, the mercury ran up to 75°!

both the warming and the ventilating of the apartment. The escape of the vitiated air up the chimney flue would be helped by kindling a small fire on the hearth or in the grate. Indeed, this arrangement—the furnace and a fire on the hearth, constitutes, to our mind, the best known method of warming and ventilating a dwelling-house: the furnace affording a comfortable warmth to the halls and rooms of the entire build-

ing, while the ruddy light in the fire-place gives a cheerful, homelike expression to the apartments occupied, which can be gained in no other way; and both together furnishing ample ventilation.

Let it be added, finally, that while specifying these several plans for ventilating buildings, we have desired to suggest correct principles, rather than to advocate particular methods.

DESIGN IN RURAL ARCHITECTURE—No. 15. A SMALL STABLE.

G. E. HARNEY, ARCHITECT, COLD SPRING, PUTNAM COUNTY, N. Y.

We offer the readers of the *Horticulturist* this month a design for a small stable. It has accommodation for two horses and a cow, besides a separate apartment for carriages, and another smaller room for harnesses, &c.

The carriage room measures 13 feet by 22. Each horse-stall is $5\frac{1}{2}$ feet wide, and $9\frac{1}{2}$ feet long to the rear of the stall partition, or 17 feet to the partition of the carriage-room.

The stalls are provided with cast iron



FIG. 70.—*Perspective.*

mangers and iron hay-racks each secured to opposite corners of the stall. We consider these iron fixtures the best in use, but care should be taken to keep them always coated with some kind of paint, to prevent injury to the horses mouths in winter, when they are liable to become frosted.

The cow-stall is $4\frac{1}{2}$ feet wide, and is provided with a manger and some suitable fastening apparatus; for the latter, we prefer the ring and chain, though the old-fashioned stanchion is recommended by many.

The floors of the stalls should be laid

with smoothly-planed locust joists, slanted towards the gutter just enough to take away the water—say two inches in the $9\frac{1}{2}$ feet.

The harness-room is provided with hooks for harness; a closet to keep brushes, soap, oils, medicines, &c., &c.; and a small stove to heat water for washing harness, &c.

There is a rain-water cistern, built with brick and cement, in the yard, near the rear of the stable, and this, taking water from the roof, by means of tin conductors, supplies all the water required.

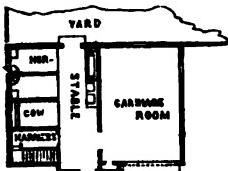


FIG. 71.—*Ground Plan.*

Rain water is much better for stock than spring water. The pump is inside the stable, as will be seen in the plan, and empties into a trough, convenient to which are chests lined with tin, for holding oats and meal, &c.

A ventilating shaft rises from the stable-room to the ventilator shown in the sketch, and this, with the small windows in the head of each stall, provides sufficient circulation of air. In the summer, the doors may be taken off their hinges, and gates

with locks substituted in their place. The little windows spoken of are placed above the heads of the horses—say seven feet from the floor, and are opened by means of pulley and rope.

At the rear of the building, a door opens into a yard enclosed by a high fence; and, if there be a desire to make the establishment quite complete, there may be built around this yard a range of buildings for poultry, pigs, &c., and open sheds for wagons and carts. Such a range of buildings we shall present at some future time.

This stable is built of wood, and covered with vertical boarding and battens; the roof is covered with slate; the doors all have simple hoods as well as the windows, and the glass for the latter, we would have set in diamond-shaped panes, which, at a little or no extra expense, heightens wonderfully the artistic effect of such a building as this.

Paint the building a warm cream color, the eaves, and window-trimmings, and doors considerably darker; plant a good many trees around it, and set a flowering vine here and there, so as it may run along its walls; take good care of the grass, and keep the drive-way well rolled and clear of weeds, and then we think the effect of the whole will be rather pleasing than otherwise.

This stable will cost at present prices about 1,200 dollars.

RAISING GRAPE VINES FROM SEEDS.

BY A. J. CAYWOOD, POUGHKEEPSIE, N. Y.

MR. MERRICK, in his interesting article on "Grapes in '65," in your February number, asks for information in relation to expediting the germination of grape seeds. When I came to this, my mind recurred to my labors for the past sixteen years, in trying to discover some of the enjoyments and luxuries by Nature hidden, but designed to be revealed in time, as necessity demands.

The lawyer says he wants the worst of his client's case first, and I would hint to Mr. Merrick that his chances of failure are far greater than those of success.

All those who would produce valuable varieties of fruit must expect many disappointments, unless there is a more perfect system of hybridization discovered. I think I have tried all the approved modes of

fertilization, and from the thousands of vines I have raised, many of which I have not abandoned until they were five years old, only two are considered valuable. One is a hybrid of the Diana and Delaware; the other was raised from Concord seed, not hybridized, at least by any effort of mine.

You may call this poor luck, but I think all others who have experimented with grape seeds extensively have shared the same fate, Mr. Rogers being an exception. I am well aware that, in some cases, good varieties have been produced by the first attempt at crossing; and the process has been continued by the same person for years without obtaining another. I suppose this want of success is the result of many causes. The incongruity which may exist between two of the strongest varieties might lead to degeneracy—the pollen of one flower being in a more advanced stage than that of the other; one being naturally stronger than the other; earliness and lateness; the difference in form of flower or fruit; and other differences in the same family. The effect we can see; but why crossing in the vegetable kingdom tends to retrogradation we cannot fully explain. It is barely possible that from a single seed, planted without any pretensions to hybridization, might be produced a better variety than any we now have; while thousands might be hybridized, and all prove worthless. By this, you will perceive that I do not fully believe the doctrine that the blossoms of the grape cannot be fertilized unless it is done scientifically. We have now, in several instances, the characteristics of two distinct varieties, so completely blended in the chance seedling, that it is no longer a question whether they may become hybridized naturally. If Mr. Rogers should succeed in the future as he has in the past, I will conclude that there is not so much uncertainty about grape seedlings after all, and that he has discovered a more certain method of hybridizing.

It is not my design in the foregoing to discourage Mr. M. in the planting of seeds;

on the contrary, I would advise him, as I have others, to do it. If all who own land should devote two feet square to seedlings, we would, in a few years, have what the present efforts would not bring us in as many centuries. Although the prospect would not be flattering to the individual, the general effect would be great. Whoever, by his indefatigable energy, develops some of the good things now in waiting, confers a lasting benefit on mankind—Downing, Kirtland, Wilson, Hovey, Ball, Allen, Rogers, Wilder, Grant, Brinkle, Van Mons, Rivers, Le Roy, and a host of others in Europe and America, will be looked upon by future generations as benefactors of their race. I have concluded at several different times to save no more seeds; but, when the grape season came, I, irresistably, would prepare a few more for the next spring's planting.

I have derived much pleasure from watching their growth and development. It is a game of chance, which all may play at, and do no violence to the moral law; a recreation attended with novelty and hope, which well pays its way, even if the goal is never reached.

To Mr. M. I would say, grape seeds should be put in earth in a pot or box, immediately on being taken from the fruit, and the vessel buried one or two inches from the surface, in order that they may be frozen during winter. A box should then be prepared, of suitable size, ten or twelve inches deep, placed in a hot or cold glass-house, and filled with soil properly prepared, within three inches of the top.—About the 1st of April, the contents of the pot, seeds and earth, should be evenly spread over the surface, after having been well mixed. Over all, a quarter of an inch of good soil should be sifted, being careful to exclude the earth-worms, as they will destroy a portion, if not all, of the young plants. This may be done by taking the earth from the surface as it begins to thaw in the spring, the worms being below the frost; or sift the earth if later in the

season. A portion of the young plants will damp off. If they should yet be too thick, thin out the smaller ones, not allowing them to be crowded. When they strike the third leaf, those taken out may be replanted; the vines remaining in the box will make from three to fifteen feet the first summer. Those grown out doors will seldom ripen any buds before the early frost kills them; they may also be successfully grown in hotbeds. Some seedlings will bear at the age of three years, but many more will not until four. As soon as the cluster of blossoms is sent forth, and before the cap of each little flower falls, its gender can be easily decided. I say gender, as we here call the non-bearing vines males.

The peduncle of the fruitless vines is very

small, not larger than a cambric needle; clusters very large, and highly perfumed. You must not expect to see grapes on a cluster of this description. When the cap bursts, a small yellow knot will appear where there should be a grape. The entire cluster will fall, and the vine might as well be destroyed. If it does not bear the first time it blossoms, it will never bear after. The cap may be removed, and its character ascertained, a week before the young grape would be sufficiently developed to throw it off.

Now, Messrs. Editors, I hope you will not think these unclassified jottings the communication I have long promised you on this subject, but will try at some future time to redeem my promise.

DESIGN FOR A HOUSE FOR DRYING FRUITS.

BY. J. C. HOBSON, CARDINGTON, OHIO.

THE following sketch is of a building of moderate dimensions, 4x12 feet, and five feet in height, set upon a wall of brick or stone twenty inches high; and, to obviate the necessity of going inside when heated up for drying, it is constructed with two tiers of drawers on either side, 23 inches by 5 feet, with slat or wire bottoms each

one made to slide in and out independent of the rest, and each tier enclosed with double doors. The building is heated by means of furnaces extending from either end, and communicating with the flue in the centre.

By reason of the drawers meeting over the furnaces in the middle, the heat in rising



FIG. 72.—*Drying House.*

is compelled to pass through them, thus the fruit is dried faster than by the usual mode of placing it on shelves against the wall of the house.

The number of drawers may be increased to double the amount represented in the drawing if necessary, which would make

them hold a considerable quantity of fruit, say from twenty to thirty bushels.

The building should be constructed of light timber, may be weather-boarded horizontally or vertically, and made ornamental or otherwise, according to the taste of the owner.

HEARTS' PIPPIN.

Some years since, the writer received this variety from Charles Downing, Esq. It is not of the highest flavor as an eating apple, but the flesh is very tender, of a pleasant, mild, sub-acid taste, and cooks among the best. The tree is a good bearer. We find no published description of it, except in the *Western Fruit Book*. Fruit, medium size, roundish, flattened at ends, oblique. Color, pale yellow.

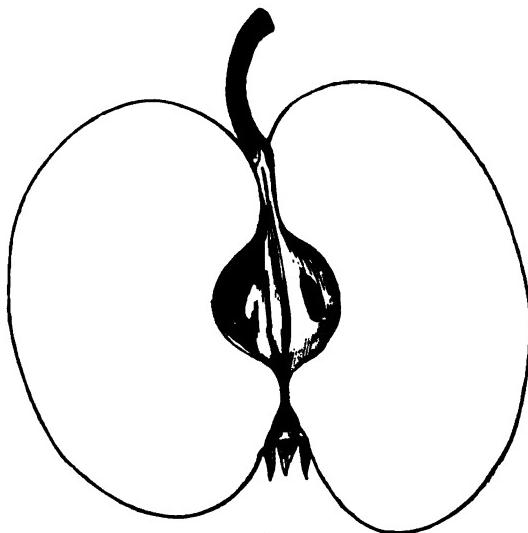


FIG. 73.—*Hearts' Pippin.*

low, with suffused shades of whitish yellow, and a faint blush cheek in the sun.— Stem medium, generally curved. Cavity, regular, russetted. Calyx with five dis-

tinct, erect, open segments. Basin, deep. Flesh, white, very tender, juicy. Core, medium, or below. Season, November.

PROTECTION OF PEACH TREES IN WINTER.

BY JOHN H. JENKINS.

We must resort to some protecting system for peach culture, or be disappointed, year after year, by late spring frosts— at least, such has been our situation. For four years, our peach crop has been smitten by May frosts; and, if we do not grow our trees in the future so that we may protect the buds from hard winter freezing and late

spring frosts, we may expect nothing but disappointment for the next four hundred years.

The system is simply as follows:—Buy only the best trees, one year from the bud, and if they haven't low heads, cut back to 18 or 20 inches from the ground, as shown in Fig. 74. Plant the tree, in good soil, of

course, mixing with the soil one-half bushel of leached ashes to each tree. Let no stock run in the orchard without the trees are enclosed. The first Fall after planting the tree ought to appear as shown in Fig. 75. The winter preceding the second spring, make, or have made, or go to the woods and cut them, a lot of stakes made from boards $2\frac{1}{2}$ to 3 inches wide, and 3, $3\frac{1}{2}$ to 4 feet

long, sharpened at one end, and with an inch hole inclining at a small angle near the upper end; drive in a strong pin, and you have them made. We will suppose the tree has made from three to five strong side-brances the first summer, within 20 inches from the ground, and has sent up a strong leader.—We commence this the second spring with our horizontal training, by bending down



FIG. 74.



FIG. 75.

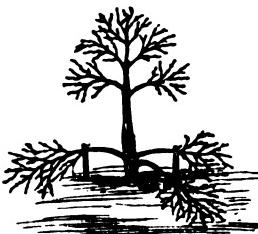


FIG. 76.

each side-branch, and securing it at about two feet from the ground with these stakes. The tree has then the appearance of Fig. 76. Of course we cut back, to form the tree to suit our taste, and cut out unnecessary limbs. We let the tree grow, keeping the worms away, hoping to have a good growth by Fall.

The next summer we may expect some fruit—a pretty good crop, provided we insure the life of the buds. Sometime in November, or before hard freezing, we bend down the side branches, so that they will rest on the ground, and secure them by driving down another stake near the end of the branches, and cover entire with soil,



FIG. 77.

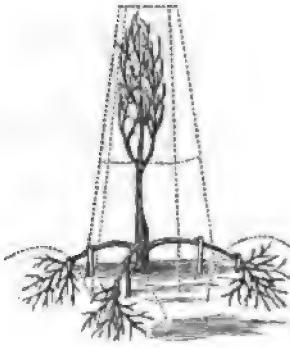


FIG. 78.

say from 1 foot to 15 inches deep, owing to the climate, of course. Then crowd the leader with its branches into a long box, resting on four legs, according to Mr. Palmer's plan; or, what is cheaper and as good,

make straw bands, twisted, and wrap closely around the leader, drawing in the side branches as you proceed, until it resembles Figure 77. Figure 78 represents the tree the winter of the second year, the dotted lines

over the branches showing the earth; the dotted lines over the leader shows the box. Allow the tree to remain in this situation until the middle of April, or thereabouts, when the soil is to be removed from the branches, and the second stake pulled up.—

The branches will then rise, and be about three feet from the ground; remove the box or straw from the leader; the tree will then bloom so late as to insure the fruit crop.

East Bethlehem, Washington Co., Pa.

PLAN FOR LAYING-OUT A SQUARE ACRE LOT.

BY E. FERRAND, DETROIT, MICH.

THIS garden contains everything that can conveniently be established on an acre lot. The stables and out-buildings are separated from the main place by two gates; one, M, opens the way to the dwelling; and the other, N, leads into the garden. There is a passage, O, to the street, entirely hidden by the thicket alongside of it, so that hay,

manure, &c., may be taken in and out without interfering at all with the cleanliness of the place. The shrubbery has been so disposed as to conceal the limited dimensions of the place. The greenhouse is conveniently situated near to the house, and a view of it is afforded from the street. The walks around the kitchen garden are plant-

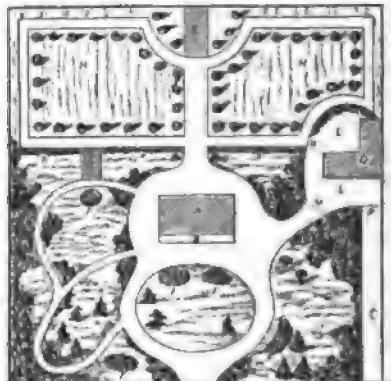


FIG. 79.—*Plan of Square Acre Lot.*

A Dwelling.

B Plaza.

C Stable, Barn, and other Out-Buildings.

D Greenhouse.

E Grapery (house).

F Flower-beds.

H Kitchen Garden, with dwarf fruit trees and small fruits.

K Trellis of Grape-Vines.

L Yard.

M Gate.

N Gate.

O Passage from the Barn to the Street.

ed with dwarf fruit trees, and the space devoted to that garden is sufficiently large to provide a family with the usual vegetables and small fruits. There is a viney, E, and a trellis of native grapes separating the ornamental from the vegetable grounds. The

yard, L, is shut by the gates M and N, and at the entrance of passage O on the street, so that horses or other animals may be let loose in that yard without fear of their running away, or through the garden.

WHARTON'S EARLY PEAR.

This pear was distributed many years little or nothing has been heard of it since by that zealous horticulturist, A. H. Can Mr. Downing, or Wilder, etc., tell us Ernst of Cincinnati, but since his death, aught of it? Here is an outline of it.



FIG. 79.—*Wharton's Early Pear.*

The tree is described as a strong, healthy melting, juicy, sweet and high-flavored grower; the fruit above medium; yellowish bearing well, and ripening middle of green, with more or less of russet, and flesh August.

MARGARET PEAR.

In our March number we gave an illustration and description of one—"Mary"—of two new pears originated with Mr. Christopher Wiegel, Cleveland, Ohio. We now give outline, figure and description of number two, which he desires named *Margaret*.

Its history is the same as Mary's, and given in our March number.

DESCRIPTION.—Size, medium. Form, oblong, ovate. Stem, one to one and a half inches; straight; inserted without depression. Calyx, large, open, with long, reflexed

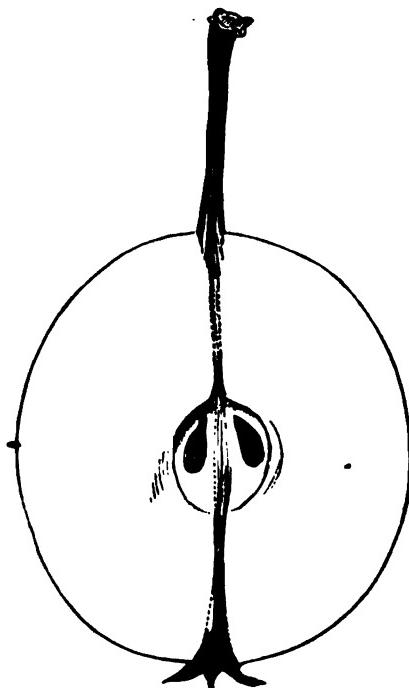


FIG. 80.—*Margaret Pear.*

segments; without basin, but irregular, uneven surface surrounding. Color, lemon-yellow ground, when fully ripe; mostly over-spread with deep, dull-red, small russet dots, with occasional small russet marblings and patches of russet; where the surface is

not reddened the dots appear green underneath the skin. Flesh, white, finely granulated, juicy, vinous, sweet, and free from astringency. Core, small. Seeds, dark brown. Season, last of July, and early August.

NOTES ON THE APRIL NUMBER.

THE ENEMY.—Come, come, good editors, you must not lay all the blame of a scarcity of apples on the codling moth, forsooth.—Because, as you say, apples are dearer in New York market than oranges, must it all be attributable to the depredations of insects? Stop a minute. You say New Jersey was once famous for its fine fruit, but now for its *want* of fine fruit. I am not a Jerseyman, but I have had some whole-souled friends in that State, and I feel like, in a short way, taking up the cudgel in her behalf, and say, therefore, that you are perhaps mistaken, and your enthusiasm for once has led you to erroneous conclusions. I may not say that New Jersey has produced *perfect* apples this past year, but I may say that you are making surprising assertions. In, say, 1832, and onward to 1840, very few perfect apples were grown in the New England States, but the past year their apples have been more perfect than in New Jersey, or onward to Ohio. Michigan, as yet, and the Canadas, are comparatively clear of the codling moth, and their fruits have this year commanded prices over the above-named intermediate space. Now, while I shall go with you heart and hand toward perfect extinction of the insects, and would urge, as you do, "the importance of prompt and energetic action towards the destruction of the apple moth, and all other insects injurious to the horticulturist," I cannot agree with your prophetic vision, "that of no fruit will we ever have an abundance, but with each year an increasing scarcity." I have looked carefully over fruit-growing more than forty years, and find that occasional seasons occur of adversity in the products of the earth, to be followed soon, if not directly after, with profuse abundance. I will, therefore, as an offset against your prophesy, say that I believe the coming year will be one of great abundance in product of the apple and pear, and that, as a feature, there

will be less injury from insect degradations than for several years past.

I am with you in urging attention of fruit-growers to the study and habits of insect life, that they may the better know how to protect their own interests, for it is the interest of every fruit-grower to ripen as perfect a crop as possible; and the more he knows of the soil, the habits of the tree and of the insect, and diseases attendant upon tree and fruit, the better is he enabled to guide his labors toward profitable results.

DESIGNS IN RURAL ARCHITECTURE.—No. 13.—In certain locations, I think that, architecturally, the appearance of this cottage would be very pretty. Its effect on paper is certainly good, and there does not appear any useless ornamentation; yet most who build at a cost of \$1,800 to \$2,000 look for more room, and the rooms of larger size than are here portrayed. I think the house could be spread out on ground plan, and thus improved, at a comparatively trifling cost.

MILDEW AND GRAPE CULTURE.—Mr. Saunders is a man so conversant with grapes, and withal so observing, that it is hardly to be expected he can err—but "ain't the best aft gang aglee," and I may be permitted to record, that while measurably agreeing with his convictions, that "atmospheric influence is the cause of mildew," I cannot submit to the covered trellis; because I have seen mildew underneath it; and also abundantly on vines covering trees.

DIAGONAL TRAINING IN VINEYARD CULTURE. No. 2.—With the writers opposition to "stopping and pinching in," i. e., severe summer pruning, I fully agree, and believe that more of injury than good to our native grape vines has been caused by following old country dogmas in regard to this practice: The distance apart of vines I however think is not sufficient, unless it may be such varieties as Delaware, Rebecca, etc. If we

may judge from all our readings the advantage to the grower is obtained by placing his strong-growing vines, as Concord, etc., at distances of eight or more feet apart, rather than at less than six feet, as here advised.

ABBOT PEAR.—I am glad to see this good, and handsome pear brought again into notice. I have grown most beautiful, as well as good fruit of it; and were it not for one single fault, viz., that of ripening up too fast, it would be one of the most desirable in all choice collections.

MASTEN'S SEEDLING APPLE.—Judging from the description, this must be a most remarkable apple, but perhaps a little too large, and open core. I should like much to see the fruit, and must write Mr. Masten at proper season for samples.

CLEFT GRAFTING.—A timely article, wherein the writer has remembered that all the readers of the *HORTICULTURIST* are not experienced in all the practical arts of which its pages treat. I would add, that the old practice of using grafting clay as a wrap over the tie of grafting wax is good as a preventative to drying.

REPORT ON GRAPES IN MISSOURI:—1865.—A most valuable record! I am a little surprised at the conduct of Anna and Cuyahoga, for I have been impressed with an idea that they would prove valuable in

Missouri. I would like to ask Mr. Husmann, of whom he procured the *Martha*, as I suspect there are two grapes sent out under this name. Again, I would like to ask, if Mr. H. has Rogers No. 3—and if so, what observations he made on that. I have a belief that it will make a fine wine, and tolerable table grape for his section.

GARDENS AND PARKS OF GERMANY.—All travelers over the section traversed by this writer, join in their praise of the roads, and road-side trees. The example of planting fruit trees by the road side has been advised in this country, and while we acknowledge its beauty and usefulness, we are and perhaps ever will be, a too roving and restless people, with too many regardless of laws or property to make the practice desirable.

As we now are, these very peasants, who so carefully respect the ownership of these road-side-trees in Germany, no sooner arrive here than their first onslaught is on any and all property not protected by fence, dog, etc.

Time perhaps, will be when it may be advisable and safe to plant fruit trees on roadsides, but at this stage of our progress I think we had best stick to our elms, maples, etc., for our street shades.

REUBEN.

HORTICULTURAL MATTERS AT THE HAWAIIAN ISLANDS.

FROM OUR OWN CORRESPONDENT.

In the tropical regions, the vegetation is always of a greener and fresher verdure, the foliage more luxuriant, and the leaves more beautiful in shape and texture, than in your Northern climates—even in the summer months—for the varieties are more numerous, and each possessing some marked and peculiar character, interesting to the botanist and tourist, and every true lover of nature. The frequent, light showers of rain, which occur almost daily, in the warm latitudes, seem a wise dispensation of that over ruling Providence for the beauty and

preservation of the foliage, and vegetation, which otherwise would scorch and dry up under the hot rays of the sun.

There are a large variety of flowering trees and shrubs in and about Honolulu, of every size and shade of foliage, beautiful and attractive to the eye of every tourist who visits the islands, a description of which, botanically arranged and classified, I will endeavor to give you from time to time, as my health may permit. Among them are some indigenous to the country, and others, exotic in character, which have

been brought here by the early settlers, or introduced through the efforts of the Royal Hawaiian Agricultural Society, by Dr. Hildebrand, who is now in China.

The ostensible object of Dr. Hildebrand's mission to China and India, where he has been since last summer, was to obtain suitable laborers for the plantations, having received the appointment of Royal Commissioner of Immigration. The Royal Hawaiian Agricultural Society, to improve so valuable an opportunity, at the same time, made an appropriation of \$500, for the purpose of providing, through Dr. H., seeds, plants, shrubs, and fruit-bearing shrubs and trees of every description that are natives of China and India, and that have not already been introduced to the islands. From his thorough knowledge of botany and the sciences, as well as general information concerning packing and shipping plants, no one is better fitted for the important mission. There is every reason to believe, that by the liberal encouragement of the Hawaiian Agricultural Society, the mission will result in vast good to the islands, and by the exertions of Dr. H., a large and valuable collection of hitherto unknown plants and shrubs, and spice growing plants, and trees and fruits may find their way to these islands, where there are abundant tracts of fertile soil, suitable to their culture and growth, on an advantageous and beneficial scale, and their products in time be reckoned among the future resources of *Hawaii nei* !

Among the many beautiful trees I have seen, in the gardens, is one, in size and shape about the same as your Northern apple-trees, covered with beautiful foliage, very ornamental, and adorned with large, magnificent flowers—showy as some of your lilies. The seed pods are from six to eight inches long, of a rich dark brown color, and filled with seeds. I have procured some of these, which I shall send with the other collection I have made, and may make, to the New York State Agricultural Society. The tree would thrive well in any locality, I think, where the magnolia would flourish.

I shall be pleased to hear of its successful culture in your State.

There is also a species of Acacia tree, which bears a seed-pod, long as your arm, and very tough and woody. They are quite a curiosity even here, and I shall try and send you one or two the first convenient opportunity.

In the beautiful, almost paradisal gardens of Dr. Hildebrand, and Judge Montgomery, President of the Royal Hawaiian Agricultural Society, may be seen hundreds of tropical trees, and shrubs, and vines, rich in foliage and bloom; growing luxuriantly, and in other and future letters, I may tell you what I have seen in my walks among the shady avenues and groves, around the trim beds, covered with a thousand gaudy and beautiful flowers, and in the wilderness of luxuriance of those charming Edens of Honolulu.

It is a matter of regret that the Royal Hawaiian Agricultural Society is at present in such a dormant state, owing to a want of proper interest and attention to the promotion of agriculture at the Hawaiian Islands. Sugar has been and is the great staple commodity, and the great trouble has been a disease called "*Sugar on the Brain*."

The climate is unsurpassed, and the soil rich and fertile, and there is an ample field of encouragement for the horticulturist and agriculturist. The Agricultural Society, it is hoped, will again rise to view, where such a broad field is open for their glorious work. Fairs should be held annually, and meetings held for the discussion of various themes, and to report experiments. As civilization advances, agriculture should keep pace, and where *Nature* has done so much, man should certainly improve and cultivate, and the avenues of improvement should be opened wider and wider, that all who choose might enter in and study and enjoy. A department of agriculture here should be an obligation of government, and be fostered and protected, for upon this important arm, as is well known, depends in a great measure the weal or woe of any civilized country.

HONOLULU S. I. Nov. 1865.

MY NEIGHBOR AND HIS GUN.

BY A. S. F.

CRACK! goes my neighbor's gun, and another sweet song-bird comes fluttering to the ground; and what for? Is it because the little songster has been in mischief? Has it been pilfering some stray head of rye, or a few grains of buckwheat? More likely neither, but probably it was searching for the eggs of the tent-worm on that apple-tree from which it fell.

Shall I call my neighbor a wretch for killing these innocent birds? It is certainly a wretched habit that some otherwise good people possess.

Why should these little pet friends of mine be killed? They are guilty of no crime, and how faithfully they work to bless mankind. How that gentle shower, in a warm spring day, opens their throats to warble forth the melody that should find an echo in every heart.

Sing and be happy, little birds, for thy Creator is also mine, and I know not which is most acceptable to Him—thy song or mine.

How few of those little friends do I meet when strolling in those grand old woods down by the side of Spring Creek.

Here are trees in which to build their nests; they are tall, and their thickly-woven branches would protect them from intrusive eyes. Here are deep, low vales, with a dense undergrowth—a fine cover for partridge and quail; yes, methinks a thrush might find a retreat here, and there is a lofty oak on which she might pour forth her song far above the surrounding trees.

I know she loves these high wood-marks for song, although she builds her nest so low. Why do I not hear her song? The day is fine, and it's the time of year for her sweetest note.

Where is the redbreast? No song from her this fine spring morn. 'Tis strange that not even the tat-too of the woodpecker or a note from the che-weep breaks the stillness of the fine old woods.

I hear no sound from yonder meadow Where is the meadow lark and bob-o'-link which have so often given forth their quaintsong as they floated from fence to tree.

Is all nature dead, or asleep—which? Let us listen. There is a sound—a low buzzing which we hear through field and forest. It sounds like a coming storm, but it is not one that will refresh the drooping foliage of tree or shrub, for it is a storming host of insect-invaders.

The winged progenitor of the apple-worm is already dropping its eggs among the blossoms. The enemies of the pear, cherry and plum are among this invading host, and the rose, with all its beauty and fragrance, shall also perish, for I can hear the whetting of mandibles for its destruction. Shall these destroyers go on to their work of devastation without a check? Alas! we cannot stay their progress, for my neighbor's gun has either killed or frightened away my swift-winged friends who have ever faithfully beaten back the invading army from year to year.

Shall I expostulate with my neighbor and kindly request him to spare the birds? I have often done so, but he replies: "the law does not forbid it." He professes to be a Christian, and strongly orthodox, so I appeal to his Christianity. He replies that he is not forbidden to kill birds by the Ten Commandments. At last, in despair, I say: "A fig for your law or dogmas; have you no love for the little pets of your Creator?" "Most certainly he has, for he loves to eat them; a dozen robins," he says, "will make a fine pot-pie."

This morning, before the sun had shone his face, my neighbor was tramping to the woods, with gun across his shoulder, and a well-filled shot-pouch by his side. At noon I saw him coming home, and I ventured to say: "What luck, neighbor?" "Fine," replied he; "I got a splendid grey squirrel."

What a magnificent half-day's work for a farmer, whose land yields but ten bushels of rye per acre, because he has no time to haul out muck to enrich it, or to subsoil his shallow cultivated fields.

What a fine example he is setting for his son. I pray that he may not follow in the footsteps of his murderous predecessor.

Many and long are the black marks which I have scored against that neighbor of mine. There is a long mark under the word *squirrel*, and it brings to mind four little chattering pets, for whom I have cracked many a handful of nuts on a cold winter day, and placed at the root of the hickory tree they often visited. Then, listening, I thought I could hear them chatter their thanks for such a tree that gave them cracked nuts in winter. But one fine morning, crack!

crack! crack! went my neighbor's gun, and now there is but one of my little pets that visits the hickory tree.

Where are those six chubby little quails that came every morning for the little handful of wheat I tossed them, or to pick up the grass seed scattered in the barnyard, and all through the day I could see them running through the shrubbery, picking out the seeds from the weeds which had been carelessly left to mature.

My neighbor's gun told the tale. One fine morning and my little quails came no more for their handful of wheat.

Dark as the score is against my neighbor, there are others as guilty as he, and may their Creator forgive them, for I cannot.

WOODSIDE, N. J.

POTS SHOULD BE DRAINED.

BY JAMES COWAN.

OBSERVING in the last HORTICULTURIST another article, by our highly esteemed friend, Mr. Henderson, headed "Should Plants be Crooked," I beg leave, most respectfully to answer his modest question, by saying that plants should not only be "crooked," but all pots in which they grow should be thoroughly drained, it being, in my opinion, absolutely necessary to insure the specimen-grower complete success.

Mr. H. also remarks that it is not the pieces of broken pots and charcoal placed at the bottom of the pot that causes my success in plant-growing. I can assure him that it has a great deal to do with it. He must remember that there is great virtue in charcoal and broken pots; for such materials, together with a little moss, form a thorough drainage. After that, the plant requires careful watering, but not so much as one that has no drainage.

It is my firm opinion that all tropical plants should have the very same treatment

as to drainage, with the exception of aquatics.

Mr. Henderson has had extensive practice in growing hard-wooded plants, as well as florists flowers, in Jersey City, but he has dispensed with the former, because they did not pay. I really believe it; for it is quite absurd to attempt to grow hard-wooded specimens without thoroughly drained pots. Mr. Buist, of Philadelphia, says in his book every now and then "drain your pots thoroughly."

Mr. H. advised me to place a thorough drained pot, say 8-inch or so, on the bare boards of the stage. I have done so; and find, by experience, that more than one-half of the water runs out, and at the same time can be seen air bubbles, as the water passes through the soil. Frequent watering carries down the gas of which the air is composed, to feed the roots of plants. These bubbles could not be seen if there were no holes in the bottom of pots.

Mr. H. argues that pots with drainage deprive the plants of so much earth to feed upon. I maintain that such plants should have larger pots, as I am led to believe that the most useful roots of plants are near the surface, where they can have a liberal supply of atmospheric air, which is most beneficial to their growth. I maintain, also, that the same law holds good in the case of pots, as well as in the draining of land.

Allow me to make a few extracts from Johnston's Elements of Agriculture:

"The advantages that result from draining are manifold. The presence of too much water in the soil keeps it constantly cold. The heat of the sun's rays, which is intended by Nature to warm the land, is expended in evaporating the water from its surface, and thus the plants never experience that genial warmth about their roots, which so much favors their rapid growth, where too much water is present in the soil; also, that food of the plant which the soil sup-

plies is so much diluted, that either a much greater quantity of fluid must be taken in by the roots, much more work done by them, that is, or the plant will be scantily nourished.

"The access of air is essential to the fertility of the soil, and to the healthy growth of most of our cultivated crops."

"The insertion of drains not only makes room for the air to enter, by removing the water, but actually compels the air to penetrate into the under parts of the soil, and renews it at every successive fall of rain. Open such outlets for the water below, and as it sinks and trickles away, it will suck the air after it, and draw it into the pores of the soil wherever itself has been."

I have made the above extracts to show Mr. Henderson the necessity of draining, and the benefit plants derive from it.

I appeal to the gardening community to express their views in the matter, as this will be my last on this subject.

FOWLS AROUND A COUNTRY HOME.

BY F. R. E.

THE advantages and pleasing associations derived by having a cow and pig as part and parcel of the ruralist's homestead, have been portrayed by an able writer in the pages of this Magazine, and while he may gain all the favor of the men on his side in so advising, I think I will have the approval of the women, in asserting that the poultry yard should be attached to every home where half an acre of ground makes part and parcel thereof.

The advantages of fresh eggs—of having a fine fat bird to kill, when wanted,—together with the cheerful and life-like character given by the loud and shrill crow of the cock as he rolls out defiance to all the world in defence of his harem of full breasted, well-formed hens, decked in their flaunting garbs of colors, ranging from pure white, to sober shades of gray and brown, with perhaps an occasional sprinkling of black, are apparent to every housekeeper. Although a Horti-

culturist, with flowers and fruits around me, and where hens delight to bask, sun themselves and scratch, to the often annoyance of a lover of neat kept flower-borders, or an enthusiast in examining and testing some new strawberry, etc., yet after years of housekeeping, I could no more keep house without my Speckled Dorking fowls around me than without my flowers and fruits.

I name Speckled Dorkings, because having once had a regular course of the "Chicken fever," during which I paid fancy prices for Brahma Pootras, Buff, White and Black, Shanghae, etc., etc., and tried nearly every breed of poultry, I have settled back to my first impression, viz: that taking all in all, the best breed of fowls is the Speckled or Colored Dorking. They are hardy, are good layers—do not roam or wander from their immediate roosting house as far as most other breeds, their eggs are more than medium size, the chicks come to a size fit for

the table sooner than any other breed, and when dressed are full, plump, and round in form, and, corresponding with their age, weigh more clear meat and less bone. I have, this past autumn, killed and dressed birds not quite four months old, that weighed four and one-half pounds after being thoroughly drawn.

As I have said, I could not keep house without having fowls around me, and this, I believe, would be the saying of nearly every country resident; yet how few think

of the difference in value that might yearly be added by the keeping of some pure and well-formed breed of fowls, over the common dung-hill mixture so generally found, and that cost just as much to feed, but when dressed and weighed only weigh one-half to one third as much. The raiser of only fifty chickens a year will have gained nearly one hundred and fifty pounds of clear white meat, to say nothing of the pleasure derived from showing a flock of birds creditable to appreciative intelligence.

RUSKIN'S CLOUD AND TORRENT.

The most remarkable quality, perhaps, in Mr. Ruskin is his pure and earnest love of nature. Herein lies the charm of his works, which are so familiar to many of our readers. To this may be traced the main virtue there is in them, and the main utility they possess. They will send the painter more than ever to the study of nature, and perhaps they will have a still more beneficial effect on the art by sending the critic of painting to the same school.

Mr. Ruskin, in his love for Nature, brings forward and displays the palpable facts of Nature—the sky, the sea, the earth, the foliage, the clouds—which the painter has to represent. His descriptions are sometimes made somewhat indistinct by an exuberance of words; but there is a light in the haze—there is a genuine love and appreciation of Nature felt through them. And this is the essential point of sympathy, we take it, between Ruskin and his readers. We will illustrate this love of Nature by quoting a specimen or two of his happiest descriptions. We begin with the *Cloud*, and our readers will confess that their first feeling, after the perusal, will be an irresistible impulse to throw open the window, and look upon the clouds again as they roll through the sky.

"It is to be remembered that, although clouds of course arrange themselves more or less in broad masses, with a light side

and a dark side, both their light and shade are invariably composed of a series of divided masses, each of which has in its outline as much variety and character as the great outline of the cloud; presenting, therefore, a thousand times repeated, all that I have described as the general form. Nor are these multitudinous divisions of a truth of slight importance in the character of sky, for they are dependent on, and illustrative of, a quality which is usually in a great degree overlooked—the enormous retiring spaces of solid clouds. Between the illuminated edge of a heaped cloud and that part of its body which turns into shadow, there will generally be a clear distance of several miles—more or less, of course, according to the general size of the cloud; but in such large masses as Poussin and others of the old masters, which occupy the fourth or fifth of the visible sky, the clear illuminated breadth of vapor, from the edge to the shadow, involves at least the distance of five or six miles. We are little apt, in watching the changes of a mountainous range of cloud, to reflect that the masses of vapor which compose it are huger and higher than any mountain-range of the earth; and the distance between mass and mass are not yards of air, traversed in an instant by the flying form, but miles of changing atmosphere leagues over; that the slow motion of ascending curves which we

can scarcely trace, is a boiling energy of exulting vapor rushing into the heaven a thousand feet in a minute; and that the toppling angle whose sharp edge almost escapes notice in the multitudinous forms around it, is a nodding precipice of storms three thousand feet from base to summit. It is not until we have actually compared the forms of the sky with the hill-ranges of the earth, and seen the soaring alp overtopped and buried in one surge of the sky, that we begin to conceive or appreciate the colossal scale of the phenomena of the latter. But of this there can be no doubt in the mind of any one accustomed to trace the forms of cloud among hill ranges—as it is there a demonstrable and evident fact—that the space of vapor visibly extended over an ordinarily clouded sky, is not less, from the point nearest to the observer to the horizon, than twenty leagues; that the size of every mass of separate form, if it be at all largely divided, is to be expressed in terms of miles; and that every boiling heap of illuminated mist in the nearer sky is an enormous mountain, fifteen or twenty thousand feet in height, six or seven miles in illuminated surface, furrowed by a thousand colossal ravines, torn by local tempests into peaks and promontories, and changing its features with the majestic velocity of a volcano."

The forms of clouds, it seems, are worth studying, and their study will richly repay the lover of nature. After reading this, no landscape painter will be disposed, with hasty slight invention, or with careless observation, to sketch these "mountains" of the sky. Let us see what he says of water, first of a falling stream, and then of running water:

"A little crumbling white or lightly-rubbed paper will soon give the effect of indiscriminate foam; but Nature gives more than foam—she shows, beneath it and through it, a peculiar character of exquisitely-studied form bestowed on every wave and line of fall; it is this variety of definite character which Turner always aims at,

rejecting as much as possible everything that conceals or overwhelms it. Thus in the upper Fall of the Tees, though the whole basin of the fall is blue, and dim with the rising vapor, yet the attention of the spectator is chiefly directed to the concentric zones and delicate curves of the falling water itself; and it is impossible to express with what exquisite accuracy these are given. They are the characteristics of a powerful strain descending without impediment or break, but from a narrow channel, so as to expand as it falls. They are the constant form which such a stream assumes as it descends; and yet I think it would be difficult to point to another instance of their being rendered in art. You will find nothing even in the water-falls of our best painters, but springing lines of parabolic descent, and splashing and shapeless foam; and, in consequence, though they make you understand the swiftness of the water, they never let you feel the weight of it; the stream, in their hands, looks active, not supine, as if it leaped, not as if it fell. Now, water will leap a little way—it will leap down a weir or over a stone—but it tumbles over a high fall like this: and it is when we have lost the parabolic line, and arrived at the catenary—when we have lost the spring of the fall and arrived at the *plunge* of it—that we begin really to feel its weight and wildness. Where water takes its first leap from the top, it is cool and collected, and uninteresting and mathematical; but it is when it finds that it has got into a scrape, and has further to go than it thought for, that its character comes out; it is then that it begins to writhe, and twist, and to sweep out, zone after zone, in wilder stretching as it falls, and to send down the rocket-like, lance-pointed, whizzing shafts at its sides, sounding for the bottom. And it is this prostration, the hopeless abandonment of its ponderous power in the air, which is always peculiarly expressed by Turner.

When water, not in a very great body, runs in a rocky bed much interrupted by

hollows, so that it can rest every now and then in a pool as it goes along, it does not acquire a continuous velocity of motion. It pauses after every leap, and curdles about, and rests a little, and then goes on again ; and if, in this comparatively tranquil and rational state of mind, it meets with any obstacles, as a rock or a stone, it parts on each side of it with a little bubbling foam, and goes round : if it comes to a stop in its bed it leaps it lightly, and then, after a little splashing at the bottom, stops again to take breath. But if its bed be on a continuous slope, not much interrupted by hollows, so that it cannot rest—or if its own mass be so increased by flood that its usual resting-places are not sufficient for it, but that it is perpetually pushed out of them by the following current, before it has had time to tranquilize itself—it of course gains velocity with every yard that it runs ; the impetus got at one leap is carried to the credit of the next, until the whole stream becomes one mass of unchecked accelerating motion. Now, when water in this state comes to an obstacle, it does not part at it, but clears it like a race-horse ; and when it comes to a hollow, it does not fill it up, and run out leisurely at the other side, but it rushes down into it, and comes up on the other side, as a ship into the hollow of the sea. Hence, the whole appearance of the bed of the stream is changed, and all the lines of the water altered in their nature. The quiet stream is a succession of leaps and pools ; the leaps are light and springy,

and parabolic, and make a great deal of splashing when they tumble into the pool ; then we have a space of quiet curling water, and another similar leap below. But the stream, when it has gained an impetus, takes the shape of its bed, never stops, is equally deep and equally swift everywhere, goes down into every hollow, not with a leap, but with a swing—not foaming nor splashing, but in the bending line of a strong sea-wave, and comes up again on the other side, over rock and ridge, with the ease of a bounding leopard. If it meet a rock three or four feet above the level of its bed, it will neither part nor foam, nor express any concern about the matter, but clear it in a smooth dome of water without apparent exertion, coming down again as smoothly on the other side, the whole surface of the surge being drawn into parallel lines by its extreme velocity, but foamless, except in places where the form of the bed opposes itself at some direct angle to the line of fall and causes a breaker ; so that the whole river has the appearance of a deep and raging sea, with this only difference, that the torrent waves always break backwards, and sea waves forwards. Thus, then, in the water that has gained an impetus, we have the most exquisite arrangement of curved lines, perpetually changing from convex to concave, following every swell and hollow of the bed with their modulating grace, and all in unison of motion, presenting perhaps the most beautiful series of inorganic forms which nature can possibly produce."

GLAZED vs. UNGLAZED FLOWER POTS.

BY S. REID, PITTSFIELD, MASS.

I HAVE had an article on the above topic partly in and half out of my head for some time, but your correspondent, "B. S.," has taken all the thunder out of it. Well, thunder owes some of its impressiveness to echo ; with echoes from them I will be contented.

The prejudice against glazed pots, we have had occasion to know, is very general.

Offer a lady a glazed pot, and she will reply, "I wish I could use them, they are so much nicer and so much easier kept clean ; but everybody says plants will not do as well in them." But who is this everybody ? "O, I have asked Gen. A's gardener, and Col. B's gardener, and Judge C's gardener, and they all say plants do much better in unglazed pots, and that you can

not hire a gardener who knows anything about his business to use a glazed pot. Is not this enough."

Well, let it pass.

We like early tomatoes, and to gratify this liking, we usually start the plants in pots the last of February, and have them in full bloom, and sometimes further advanced, by the time the open ground is sufficiently warm and dry to receive them. For pots, we use such refuse ones as come conveniently to hand, some glazed, some unglazed. Now, we have noticed, for a series of at least four or five years, that the plants in the glazed pots uniformly make the largest and most healthy growth. We allow the gardeners experiments to be just as reliable as our own. But the results are contradictory. The experiments are just like those for which agricultural and horticultural societies are paying thousands of dollars annually, and the results are the same—a bundle of contradictions. And such will be the case so long as the *circumstances, the very hinges on which results turn,* are neglected. "Half the truth is generally a lie" is an old maxim, and experiments with half the circumstances omitted give a lying result. We tried our experiments in a dry, stove-heated room, the water applied only to the surface of the earth; the gardener his, in a green-house, the watering, principally, by sprinkling foliage, pots, benches, stools, &c., with tepid water.—The air of the house is kept loaded with moisture, so that there is but little, if any, evaporation from the surface of the pot.—The air is as ready to give moisture to the pot as to ask it. The pot is not wanted to hold water, but simply to hold the earth, and keep the plant right side up. A gauze pot, had it firmness enough to do this, would answer quite well, while a glazed one would defeat the prime object—a uniform heat and moisture through the whole concern.

Step now, sir, to the sitting-room of any ordinary family—a room warmed by a stove, perhaps a coal stove, the air, the furniture, carpet, and walls are as dry as a

piece of—anything you may please to compare them with. If a whiff of steam escape from any transient vessel of water, it is drank up instantly. Bring into this room, a plant in an unglazed, a porous pot, having the earth well wet; evaporation from the surface of the pot instantly begins; and such is the rapidity with which it goes on, that it almost freezes the very earth in the pot—for all know, or ought to know, that evaporation is a freezing process; that it is not the melting, but the drying that carries off the heat. In a short time the earth in contact with the pot becomes dry. In watering, especial care is taken to give the outer edge of the earth its full share, yet it is soon dry; and, although we are cautioned against too frequent watering, yet the drooping leaf will remind us that its outer, its fibrous roots are thirsty.

The pot in the sitting-room has a very different office from its fellow in the green-house. It is to hold moisture as well as earth, and prevent evaporation with the consequent chilling of the roots of the plant. The plant needs its protection.—Give the plant language, and you would hear it say, "This air is a thirsty old fellow; I give him drink from the surface of every leaf, but he is not satisfied. He comes into my kitchen, takes the water in which I mix my food, and in getting away with it, puts out my fire, and leaves me cold and dry. He should be taught to know his place."

The whole matter, then, lies here: A healthy growth of the plant requires a certain degree of heat and moisture, and this kept as uniform as possible. In the green-house, with its usual attending circumstances, this is best secured by porous pots; in the sitting-room, under very different circumstances, by pots not porous.

We feel very confident that, for parlor use, the hard, non-porous pot will give a healthier growth of the plant, keep itself much more neat and cleanly, be more durable, and ask for less care in watering, thus combining economy, beauty, and comfort.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. WOODWARD, 37 Park Row, New York.

ST. CATHARINES, C. W., 19 Jan. 1866.
MESSRS. GEO. E. & F. W. WOODWARD.

VARIOUS matters requiring my attention have prevented my replying to your favor of 16th November last, relative to my humble experience in the cultivation of the Grape. Although always an enthusiastic Horticulturist I have only of late years turned my attention to Grape Culture and I am pleased to find that it is attracting so much attention in the Horticultural World, it is in my opinion a most delightful and profitable employment and in a very few years there will be as many varieties of grapes as there now are of apples and pears, I speak with reference to hardy varieties, or what are so called. Look at what already has been accomplished! Many can remember when the Isabella was the only grape cultivated and was considered the ne plus ultra of perfection, and now what a variety of Grape vines are offered for sale in every catalogue we take up, and I firmly believe that grape culture is only in its infancy in this country and that its cultivation is destined to be of great importance in the manufacture of native wine which is already attracting much attention. I have often been much amused at the elaborate articles, appearing from time to time in the different periodicals, relative to the management of grape vines, the necessary pruning required and the requisite ingredients to form a suitable soil, a great deal of which in my opinion, is quite unnecessary for the successful cultivation of the grape; no doubt a certain degree of knowledge is desirable, but the conclusion I have arrived at is, that we should leave more to nature and less to art, and if we paid more attention to top-dressing and less to the number of carcasses deposited in our

grape quarters, we should hear less of rot and other diseases to which grapes are liable. By making our borders too rich we stimulate the vines to unnatural growth, and we make the matter worse by taking off this luxuriant wood, and destroying the vigor of the vine. I notice in your December number that one of your correspondents, D. W. Adams, of Waukon, Alamakee county, Iowa, quite agrees with me, he says very pertinently "that the better they are treated, the worse they are diseased"—this subject I should like to see well discussed in your columns. I have been fortunate so far as rot is concerned, the only varieties on which I have seen it are the Curtis or Stetson's Hybrid (an early black grape similar to Blood's Black), badly touched, and Perkins and Concord slightly, Delaware also showed symptoms of the disease in a few berries. I much fear that under our present (in my opinion) erroneous system of pruning and manuring we shall see much more of it every season. I will now give you a list of such grapes as I have tested, and of my vines, as to their adaptability to our soil and climate, and their season of ripening in this part of Canada; the soil and climate of which, is very similar, to that of your famous Grape Valley, with the advantage of having water on both sides within a few miles of us. St. Catharines is situated at the base of the same range of hills, that run through that beautiful section of country, and is well described as the Garden of Canada.

The varieties I have hitherto tested, are as follows viz: Delaware, Rebecca, Diana, Union Village, Clara, Allen's Hybrid, Cassidy, Elsingburgh, Ontario, Louisa, Isabella, Canadian Chief, Taylor or Bullit, Lenoir,

Logan, Concord, Anna, Perkins, Black Cluster, Pelham Seedling, Secord, Catawba, Hartford Prolific, Curtis, Blood's Black, Tokalon, Rogers' 3, 4, 15, 19, 20, 33 and 41; I have also Lydia, Creveling, Worden's Seedling, Iona, Isabella, Rogers 1, 2 and 9, Adirondac, Underhill's Seedling, Maxatawny, Cuyahoga, Alvey and some others whose names I do not remember, none of which are yet in bearing.

Of the above varieties Curtis, Blood's Black and Hartford Prolific and Rogers' number 3, ripen with us *the first week in September*, none of them are high flavored and are only valuable on account of their ripening early, the Curtis was badly affected with the rot; the next to ripen with us are Delaware, Logan, Allen's Hybrid, Concord, Rebecca, Elsingburg, Ontario, Alvey, Secord Perkins and Rogers' 4, 15 and 19 *all ripening about the middle of September*.

The last to ripen here are Isabella, Diana, Louisa, Union Village and Rogers' number 1, *the first week in October*.

The question now arises which of the above numerous varieties would I recommend for cultivation. This must depend in a great measure on soil and climate, our soils are various from sand to heavy clay, the climate generally dry and on that account well adapted to the grape.

For an early grape I would take Hartford Prolific or Rogers' number 3, of the next in order to ripen, Delaware, Allen's Hybrid, Concord and Rogers' 4, 15 and 19; and I should still cling to our old favorite the Isabella, and, where it will ripen, the Diana, which will become one of our best varieties or wine in favorable localities. I made a wine from it last season for which I received a diploma and first prize at our Provincial exhibition, it requires, however a warm exposure and is then a very delicious grape, perfectly hardy, standing our most severe winters, without protection and free so far from all disease, its only fault is that it grows too close on the bunch. Allen's Hybrid is the finest white grape we have for the table, but this year the flavor did not

come up to the mark. Rogers' were all very fine and are destined, if they retain their present good qualities to form a new era in grape culture. Some varieties I have thrown out as worthless, viz., Taylor or Bullit and Lenoir, two miserable wild *sour things*, I cannot call them grapes, the Anna, one of Dr. Grant's humbugs, and I must here express my surprise that a man of his standing should send out such rubbish as this and devote *nearly two pages* of his catalogue to a description of this grape, and from which I was induced to purchase a vine now pulled up and thrown away after nursing it with great care for several years; it would be only occupying your pages unnecessarily to go over his description of its perfections, suffice it to say, that it is a *miserable flavorless thing* totally unfit for general cultivation. I had the Diana close to it ripening perfectly every season and I never had an eatable grape from the Anna, I can get any number of respectable people in this town to substantiate what I say. The Black Cluster and Pelham Seedling I have also discarded. We have lately formed a Grape Growers Association for the purpose of encouraging the growth of grapes and the manufacture of wine with every prospect of success, as we think we possess a soil and climate well adapted to the successful cultivation of the grape.

I fear gentlemen that I have wearied you with my rambling remarks, I shall be well repaid however, if they are the humble means of awakening a spirit of inquiry into the resources of, I may say, our country and in my opinion of its adaptability in many parts of it to grape growing.

Very truly yours

JAMES TAYLOR.

Dr. SCHROEDER'S METHOD.—MESSRS. EDITORS:—In the February number of the *Gardener's Monthly*, is a lecture by Dr. Schroeder upon the prevention of rot in Catawba vines, by continued layering, so as always to have fruit on new vines, and the author of the plan claims that it is a successful one.

He claims also, that he has discovered the law, that as vines get older they are more disposed to rot, a law of disease that does not seem to hold good with other fruits.

Whether this method of treatment is the true one or not, it is almost identical with a plan recommended for the prevention of mildew (in foreign grapes grown out of doors) by A. J. Downing, in *Hovey's Magazine*, volume V., page 121.

Speaking of a person who grows foreign grapes successfully out doors, Mr. Downing says :

" In the month of June, every year, he selects on every vine, a clean shoot, some five to eight feet in length, of which he buries about eighteen inches of the middle part, in the common method of layering. The plants in the vineyard are planted in rows, and the layers are made in the line of rows between the old plants.

The second year all the old plants are dug up and flung away, if they are not perfectly strong and vigorous. In this way he preserves a constant stock of strong, new vines, which are able, by their superior vigor, to resist the attacks of the mildew, and bear abundant and beautiful crops."

It will be seen that this plan, published in 1839, does not differ much from Dr. Schroeder's, and as we have Mr. Downing's assurance that it prevents mildew, there seems to be good reason to think that the Doctor's may prevent rot. If it does it will be a blessing, in spite of the labor it involves.

J. M. M., Jr.

WALPOLE, MASS.

REMEDY FOR MILDEW.—The moment of troubles for vine-growers and gardeners in general, by the oidium, is getting near, and I thought that some of your readers may read, with some interest, a remedy which is not new, but which proved, in every respect, satisfactory for years, and may, perhaps, not be generally known.

For a long time the application of flour

of sulphur, in a dry state to plants, was recommended, and is still in use in many places, but has never answered completely.

Others recommend the application of flour of sulphur during a wet day, or after syringing the plants all over.

This also did not give full satisfaction. In 1852 the French Government recommended the following remedy—first proposed by a gentleman, M. Grison, in the *Journal de la Société d'Horticulture Pratique de l'Ain*:

One pound of flower of sulphur, and one pound of slack lime, to which three quarts of water are added, gradually, by stirring the mixture; the whole put over a slow fire, and to remain boiling, stirring it until reduced to $2\frac{1}{2}$ quarts.

The liquid, after the solid matter has deposited, is to be corked in bottles, and in case of want, mixed with one hundred times the quantity of rain water, and applied all over the plants, first before the buds open, and a second time before the blooming, and the cure generally is radical.

I have just applied this remedy, with full success, to a lot of roses which I intend to force. Three weeks ago they were all at once completely checked in their growth, and I could not detect the reason until the leaves commenced to drop. It was simply the oidium, which I cured in this way. There is not the least injury to be feared to any plants from it.

By E. A. BAUMANN, Rahaway, N.J.

PEACHES SOUTH.—This month peach trees in our Southern States will do to bud. As soon as the bud starts, head off the top, and a growth of from three to four feet will be the result by autumn.

TREES transplanted this past Spring should be carefully looked over, and if they are not pushing strong will require perhaps more cutting back—perhaps mulching and watering. Thoroughly examine them, and attend to their wants in time.

ANNUALS should be carefully looked over this month, and if inclined to grow too rank or misshapen should have the ends nipped off. As they come into bloom thin out some of the weakly buds, and thereby assist the remaining ones to give you larger size flowers and brighter colors.

In transplanting annual flowers try and study their heights and colors so that as they come into bloom the flowers and foliage will blend harmoniously; as a rule, the dark colors to the centre or back ground, shading down to pure white for the margin.

Annual vines are usually trained on poles or cords, in cone, fan or other shaped forms; they are also made very attractive as masses when trained on a light wire or thread lattice, laid horizontally, about four inches from the ground. If several varieties are so trained together the effect is often very pleasing.

THE AMERICAN COWSLIP—*Dodecatheon Meadia*.

—Although a native, is none the less deserving a place in all the grounds, and is one of the few plants admirably adopted to shady borders. If to be grown from seeds, they should be gathered and sown as soon as ripe, in a sandy border, pot or frame, shaded from the south sun. If to be propagated by offsets, they should be taken off about the last of July and at once replanted in a shady border, of good, light, rich, sandy loam.

CAULIFLOWER AND LATE CABBAGE.—Seed sown early in this month will give good heads late in autumn. If severe weather comes on before all the cauliflowers head, they may be taken up and transplanted in good soil, in a light cellar or shed enclosure, where they will complete their growth nearly as well as in the open ground. Cabbage plants sown now for transplanting for winter use are much more reliable than plants already advanced. The heads of late cabbages are almost always firmer and keep better.

WASH FOR BODIES OF FRUIT TREES.—One ounce of copperas to eight or ten gallons of water forms a good wash, and is advised for trial as preventative against blight. One pound of bleachers soda and one gallon of water forms a wash that cleans off all insects, and leaves the trees with fresh young looking healthy bark.

MULCHING OR SHADING GROUND.—Not only does mulching the ground keep more uniform the temperature and moisture about the trees and plants, but it is acknowledged that the shade so obtained assists in a supply of fertilization. Now is the time, if you have not yet applied a mulch around your young trees, etc., to do it. Newly mown grass we have found one of the best, because it retained its place well, and gave no seeds to vegetate; but any litter will answer, or if saw-dust or tan bark are easily accessible, they make a durable and neat material.

Roses.—Remember, that to keep up a continuous blooming on Tea, Bengal and Bourbon roses, they require to have the blossoms removed, ere the petals fall, and that occasionally weak shoots require pinching back. Keep the ground always fresh and loose throughout the rose bed.

Remontant roses should have their first flower buds entirely removed; because at this time (June), there are abundance of roses, and because by so doing, the plants will form stronger, and more abundant buds to bloom a month hence. Layers should be put down the latter part of this month.

If buds occasionally force out on the bodies of your young trees, let them grow—do not rub them off—many trees are injured by exposure of a long bare trunk to summer and winter's suns—let the buds grow and thus form branches near to the ground, shielding by foliage, and adding to vigor and permanency of the tree.

THINNING FRUIT.—We might write page on page recounting experiments and results of thinning out fruit, but it would only be to prove that which all good fruit cultivators now concede—viz: that one-third to one-half in number of fruits, well distributed on the tree or vine, produce at maturity equal bulk, better quality, handsomer appearance, more satisfaction of mind to the grower, and finally yield in the market a greater pecuniary return.

The present and coming months call therefore for attention of fruit growers to this subject. All fruits on young and weakly spurs or twigs should be taken away, and clusters or groups so thinned, that while a supply of foliage will assist in maturing each distinct fruit or cluster, they may also be pretty evenly distributed over the tree or vine.

CHARRED TURFS form one of the best materials for cucumbers, melons, egg plants, annual flowers, etc., that we have ever tried. In growing we have used about a peck of char to each hill, and for our annual flowers a handful or so to each plant according to its vigor and habit.

RUSTIC BASKETS filled with Verbenas, Phloxdrummondi, etc., etc., form one of the prettiest as well as cheap decorations to small or large grounds. The Irish Ivy, Clematis, or Perriwinkle, each and all are good as a border to run over, and with their rich, green foliage soon hide the rough exterior, leaving the form of the basket, with its green surroundings, and its bright and cheery flowers to meet the eye. Baskets may be made with a few boards and strips of bark, or of wires, with twigs interwoven, or of wicker-work, with bark intertwined, and of form to please the taste.

SALVIAS, PETUNIAS, &c., when about to be planted out for summer blooming, in beds or borders, will have their bloom increased in quantity, and hastened in maturity, by laying the ball of roots from the pot on its side, and pegging down the branches.

GREENHOUSE PLANTS should be mostly placed out of doors this month. Geraniums and many others are the better for being cut back. In placing plants out of doors, try to have them so that they will be in shade soon after mid-day. This is especially a point of importance as we go farther south, where the heat of afternoon suns often nearly destroys the plants.

THE PEAR AND CHERRY SLUG may be easily destroyed by dusting them over with air-slacked lime. We usually go through our dwarf pear grounds about twice in a season, sowing broad cast air-slacked lime, at about the rate of four bushels to the acre, by which means we destroy the slug, and apply lime to the soil and wants of the pear. Some soils, we think, would perhaps be more benefitted by gypsum (plaster of paris), in place of lime, and the slug as effectively destroyed.

BEE MANAGEMENT.—We are no bee manager, and ourself can never approach one of the little workers without receiving from him a stinging hint that our room is what he wants, not our company. Nevertheless, we love the honey, and know many people who know more or less of hives. We have been reading, and from our readings gather the following as principles in their government:

To prevent their swarming, keep them moderately cool. Keep them constantly working by depriving them of most of their honey as it is produced. Never allow them to be starved for want of food; and never allow the larvæ to be reared in old cells.

RESERVE GARDENS.—Every garden of any pretension requires a piece of ground set apart for a reserve garden. Its advantages will be daily more and more apparent as the place grows older and older, until he who has been accustomed to its benefits will hardly know how to care for a place without such an apportionment, as part and parcel of a good place. Of some of the

advantages of a reserve garden, we may enumerate the starting at various times of annual seed, to bring forward and transplant in the border, just before their flowering period; for growing slips and cuttings of choice new plants; for starting bulbs in pots; for position and shielding of forcing-frames; for potting and shading of old plants that require a renewal, or young plants yet untested, or sickly and delicate plants. Many more items for the use of such a piece of ground could be stated; but we have said enough, we hope, to induce every owner of a garden, in planning his grounds, to provide for a reserve garden.

TRAINING TREES.—While we do not advise the commercial fruit-grower to expend time in giving variety of form to his fruit trees by other means than the best practical use of the knife, yet we do like occasionally to see diversity of form produced by artificial methods, exhibiting skill and control of plant life in grounds of amateurs. Trees in fan shape bordering walks, with spreading flat tops, almost umbrella forms, on lawns, or some points or places where space is a part of the scenery, and elevation not admissible. This month is a good time to train and tie the branches, just before or about the time of forming the terminal buds. Many sorts of trees, those especially of a straggling habit of growth, can be not only improved in forms, but their bearing surfaces often enlarged and increased or improved in character.

Gardeners and amateurs can often, with a little labor and care, give additional interest and diversity to small extent of grounds by attention to this item of fancy form in training trees.

STRAWBERRY MONTH.—June is unquestionably the strawberry month over a great part of our Union; and now, while they are in fruit, we shall feel obliged to our friends if they will send us notes of their observations

DESTROY THE WEEDS.—It seems unnecessary ever to hint that weeds require often to be destroyed, in order to keep them down; but we find some cultivators are like the weeds, and require line upon line, in order to induce their action to that which will result only to their benefit.—June is essentially the month of flowers, and equally so of weeds; and if the weeds are taken when not more than an inch above ground, a mere brush with hoe or cultivator will destroy them rapidly and easily; whereas, if left until they are firmly fastened in the soil, a great amount of labor is needed to destroy them; and, besides, they have reduced and consumed a portion of the food in the soil designed for the valued crop.

BULBS of hyacinth, tulip, crocus, &c., require to be lifted during the latter part of this, or fore part of the coming (July) month. Their position of exposure to sun, the soil, &c., will retard or hasten their maturity. When taken up, let them dry an hour or so in the sun, then lay away on shelves, in a cool but dry place. Some practice packing the bulbs, immediately on taking from the bed or border, in dry clean sand. Cut away all leaves, but do not injure any of the root fibres. Pack by laying the bulbs on their sides, and so that they will not touch each other.

DAPHNE-MEZEREUM.—Were the mezereon to be now first introduced, its early flowering and profusion of blossoms would cause a demand for it from far and wide, rich and poor. The plant is perfectly hardy; and a cluster of the pink and white varieties, with their profusion of fragrant blossoms in Spring, before any leaves expand, command the admiration of every one.—They may be easily grown from layers, cuttings, or seeds, and this is a good time for cuttings or layers. The seeds should be sown as soon as ripe. Light, sandy, loamy soil suits the Daphne-Mezereum best, but we have grown it well in clay loam underdrained.

Messrs. EDITORS.

A correspondent in the April *Horticulturist* alludes to Mr. Griffith's plan of raising grape vines from eyes in the open air, and I beg leave to say a word about raising vines without heat.

For the last two years, I have raised, for my own use, Concord, Diana, Rebecca, and Rogers' 15 and 19 vines, in an ordinary cold frame, without the least trouble.

Some Concord eyes, transplanted into the open ground in May, unsheltered, and never watered once, produced very stocky vines, with roots four feet long, and as large as a goose quill; and the same plants, last year, made canes, in the second season, as large as a man's finger. The Diana and Rebecca received rather more careful treatment, being kept in the frame all summer.

Some of the eyes were put into the frame in April, and some in May, and took care of themselves, with occasional waterings and a very little care—just enough to see that the young plants did not get burnt up.

Grapes lead naturally to strawberries, and I wish to ask:

1. Of what is La Constante a seedling, and what are the ancestors of the Agriculturist?

2. Where can exact and trustworthy information be found about the Chili strawberry, and the advertised varieties, viz.—Chili Orange, Vilmorin, &c.?

J. M. MERRICK, JR.

WALPOLE, Mass., March 31, 1866.

MESSRS. EDITORS.—The article in Jan. number, "Discrepancies of Grape Culture," reminds me of a similar case:

A gentleman of a neighboring town was the owner of a swamp pasture lot. Part of the year this was covered with water. It is situated in a long, narrow valley. The soil a black muck, and quite deep. Through this field was cut several open ditches, through which the surface-water found its exit. With no other preparation of the land, save deep ploughing, the field was planted out to grape vines. They grew vigorously and healthy, and have been for

some years in full bearing, and the crops they produce are really quite surprising—the vines hanging loaded with fruit. The variety is Isabella, but one would hardly recognize it. Bunch and berry are both unusually large; color deep, and fine bloom and quality of fruit—better than ordinary. Mildew does not in the least effect it. The experiment is a success.

It is a pretty conceit to call Nature a steady, reliable old Dame, and talk learnedly about "immutable laws." But facts, (and by many learned by costly experience), show, that when we try to chain her down to mathematical exactness—to make her work in a harness of our own fitting—she will sometimes play the coquette, bringing your carefully laid plans to utter disgrace, and then rewarding some blunderer with provoking success. The one studiously did wrong; the other accidentally did right. The fault often lies in trying to make Nature abide by man's laws; to make her produce like results under all circumstances, or what seem to be so to man. If sometimes she will grow better grapes in a swamp than on a sunny hill-side, plant in a swamp. Go with Nature, instead of trying to make her go with you. Bear good humoredly when her plans and yours don't happen to agree. Learn when she teaches, and you cannot help loving the dear old Dame better and better forever.

T. T. S.

DETROIT, Mich., April 2, 1866.

MESSRS. WOODWARD, 37 Park Row.

GENTLEMEN,—Enclosed find three dollars, for which send me one copy of colored plate of the Delaware Grape. In the *Horticulturist* for September 1863, you speak of the Yeddo Grape with great expectations. Has it been fruited, and is it suitable to this climate? Please give us more light on it. I have an amateur's collection of the reputed first class vines coming forward and wish to experiment with some foreign out-door kinds. A gentleman who has spent several years in China, tells me of a grape, which the same kind is much finer in the northern part of the empire than the

southern. The finest he saw was in 40° of latitude, and was called "Lang-yein Bee-tree," in Chinese—meaning "Dragon's Eye Grape," which with them was the highest name for excellence they could give it.

If it could be introduced here it might prove a valuable acquisition, and if the attention of the importers of seeds and plants from that part of the world was called to it, they might be induced to bring over some specimens. Let us hear some more from the Yeddo.

Yours truly,
S. G. WIGHT, 503 Jeff Ave.

[Has the Yeddo sunk into oblivion that we hear nothing about it of late? What says Mr. Parsons?—Eds.]

We have received the following circular, which will, no doubt, prove interesting to many of our readers:—

PAINESVILLE, Ohio, March 20, 1860.

DEAR SIR:

At the annual meeting of the Lake Shore Grape Growers' Association, held in Cleveland the past month, the following preamble and resolutions were adopted:

"Whereas, the Emperor of the French has invited our Government to send to the approaching World's Exposition at Paris American products and works of art; and since it is our belief that the wines made in our country, especially in the regions embraced in this Association, will compare favorably with the best specimens produced in Europe,

Resolved, That we learn with great pleasure that one of our directors, Wm. Griffith, Esq., purposes attending the Paris Exhibition in 1867, and that we hereby appoint him our representative there, and request him to take in charge all specimens furnished by members of this Association.

Resolved, That we earnestly request all our members, and others interested, to forward specimens of native wine and brandy, for this purpose, to William Griffith or J. E. Mottier, South Shore Vineyards, North East, Pennsylvania.

Resolved, That we request Mr. Griffith to procure all the information he can obtain in regard to grape culture and wine making in his proposed tour in Europe, and report the same to this Association."

In behalf of the grape and wine interests of the United States, and in obedience to instructions of our Society, we beg leave to invite your co-operation in furtherance of the object of the above resolutions. Mr. Griffith is one of the most extensive and successful grape and wine producers in this country, and we take pleasure in recommending him as a gentleman every way competent and worthy to represent these interests at the Paris Exposition.

We, therefore, respectfully request you to send to him, for this purpose, specimens of wines made from native grapes, by yourself or others. The wines must be pure, free from addition of sugar, or other extraneous substance; at least two bottles of each variety, distinctly labelled, giving name of grape, location of vineyard, name and residence of maker, date, &c.; to be sent to William Griffith, North East, Pa., so as to reach there not later than 1st November, 1866, when they will be inspected and classified by a committee, consisting of L. F. Allen, of New York; J. A. Warder and Charles Carpenter, of Ohio; and J. E. Mottier and Wm. Griffith, of Pa.

For further particulars, address William Griffith, North East, Pa., who will be happy to answer all questions.

J. P. DAKE, President.
M. B. BATEHAM, Secretary.

FLUSHING, March, 1866.

EDITORS HORTICULTURIST.—The following extract from a letter received from a prominent lover of grape culture at Great Salt Lake City may not be uninteresting to your readers, as showing the adaptation of the climate of Utah to the culture of the vine. The letter is dated Sept. 12th, 1865, and says:

"I received from you quite a variety of foreign grapes some years ago, through the

Post Office. Among them were Buckland Sweetwater, White Frontignan, Chasselas de Fontainbleau, &c., all very fine; and all ripe here now in the open air. I pulled one bunch from the former ten days ago, weighing 3 lbs., less two ounces, and yesterday two bunches, together weighing 4½ pounds, all from one vine, in the open air, and it had perhaps fifty pounds more on."

It is certainly one inducement to emigrate to Mormondom if one can have these delicious varieties of grapes arrive at such perfection in the open air.

Yours truly,
PRINCE & Co.

BOOKS, &c., RECEIVED.

GRAPE-GROWING AND WINE-MAKING, by George Husmann, Hermann, Missouri. G. E. & F. W. Woodward, publishers, 37 Park Row, New York. Price, \$1.50.

A new and practical work, fully illustrated, treating of the propagation, training, and culture of the native vine, both in the vineyard and garden, with a carefully prepared list of those varieties which, after extensive trial, are found free from disease, and adapted to our wants.

Also, thorough and comprehensive directions for wine-making, with illustrations of all the various instruments and utensils used in the manufacture.

Mr. Husmann has here given the results of his experience of many years in the culture of the vine and in wine-making, in such a clear and concise manner, that all may understand the various processes.

MINIATURE FRUIT GARDEN, by Thomas Rivers, from the thirteenth *English edition*. Orange, Judd & Co., publishers, 41 Park Row, New York. Price \$1.

This work has already passed through thirteen editions in England, which fact would seem to be a sufficient guarantee of its worth. The author is a well-known practical nurseryman and fruit-grower, and, we may add, has met with great success in his mode of culture. In the work before us, we have a thorough system of pruning and training to induce fruitfulness at an early age, and

also to keep the trees within such narrow bounds that a large number may be grown within the limits of an ordinary garden.

ESSAYS ON SOILING CATTLE, by Josiah Quincy, with a Memoir of the Author, by Edmund Quincy. A. Williams & Co., publishers, 100 Washington Street, Boston.—Price, \$1.

The subject of soiling cattle, as it is called—that is, feeding them upon green food in sheds or stalls, instead of allowing them to roam at will in pastures—is attracting considerable attention among our farming community, especially near large cities and towns, where farms are small, and the value of land great. The author shows most conclusively, from his own experience, that there is great economy in the practice, and that our small farmers may, by adopting this system, be enabled to keep as much stock as the possessor of a hundred acres upon the old system.

SIX LECTURES ON AGRICULTURE, by Mr. George Ville. A. Williams, Boston. Price 30 cents. Translated from the French by Chas. Martel.

Scientific Essays on the chemical constituents of soils, and the crops grown upon them, with results of experiments made to ascertain what properties of the soil are taken up by the growth of certain crops; with suggestions as to the proper elements to be returned to exhausted lands to renew their fertility.

THE Book of Roses, by Francis Parkman. J. E. Tilton & Co. Publishers. Boston. Price \$3.

The author of this elegant volume will be remembered by our readers as a frequent contributor to the pages of the *HORTICULTURIST* during the past year, and is well known as a skilful cultivator, as well as an accomplished writer. Mr. Parkman has given us in this book much useful information, which if followed, cannot fail to ensure success in the cultivation of this queen of flowers. Explicit directions for culture, both in the open air and in pots, for greenhouse

and parlor decoration are fully given, as well as the various operations of planting, pruning and training, with lists of the best varieties in their respective classes. The book is a valuable addition to any horticultural library, and an elegant ornament for the drawing-room table.

CULTURE OF THE GRAPE, by W. C. Strong. J. E. Tilton & Co. Publishers, Boston Mass. Price, \$3.

Grape culture is attracting much attention in our country, and more especially in those portions of it, where experiments have demonstrated the adaptability of the soil and climate. The most casual reader of Horticultural and Agricultural periodicals cannot fail to notice the frequent articles upon the grape, and if he turns to the advertising pages, he will perhaps wonder where can be found purchasers for the immense number of vines for sale ; and yet all are sold without difficulty. Now and then a new book upon the subject appears, which cultivators hail with delight, hoping to obtain more information.

In the book before us, we have the Grape very thoroughly treated, from the propagation of the vine through the various systems of training, until the fruit is ripened and marketed or consumed, with full remarks on diseases and insects. The work is not claimed to be entirely original ; the author acknowledging himself indebted to numerous writers in our horticultural monthlies for practical suggestions. This is a valuable feature in the work, as much time will be thereby saved to the reader, by having the experience of many collected in one volume.

Mr. Strong devotes but little space to culture under glass, and still less to wine-making. Much more might have been said on both these topics without making the book too voluminous.

BRECK'S NEW BOOK OF FLOWERS, by Joseph Breck. Orange Judd & Co. Publishers, 41 Park Row, New York. Price \$1 75.

The first edition of this work was pub-

lished fifteen years ago—the last in 1852, since which time it is almost needless to say, to those of our readers who have kept pace with floriculture, that a vast number of new plants have been introduced to the notice. Much of the book has been rewritten, incorporating only those portions of the old editions, where no improvement could be made. About one hundred new species have been added, and the culture of flowers brought down to the present time.

INDIAN CORN. Its value, culture and uses, by Edward Enfield. D. Appleton & Co. Publishers, New York. Price \$1 25.

Heretofore no work has been published exclusively devoted to the culture of the most important staple crop. We may say that almost every farmer, however large the number of his acres, finds place for some patch, and yet how few cultivate it enough to obtain the yield that the land is capable of producing. To endeavor to instruct his readers in the proper mode of culture and harvesting the corn and Indian corn is the author's aim in this work and he has succeeded in giving much desirable information in a pleasing style.

DE LA VERGNE'S SULPHUR BURNING. We are prepared to furnish this instrument, which is used so successfully in France and Germany for the destruction of mildew on the grape vine and other plants. An incinerized substance can be thrown by it upon the under or upper side of leaves and plants. Price \$3 50.

We have received a large supply of English publications on the subjects of Agriculture, Horticulture, Landscaping, Gardens and Architecture, and are prepared to report to order books on any subject at the most favorable terms. See advertisement of English books in this number.

Secretaries of State and county agricultural societies are requested to send us last reports, or information to whom the same may be had to Messrs J. E. Tilton & Co., Boston, Mass.

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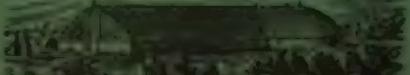
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JULY, 1866.

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THE
HORTICULTURIST.

VOL. XXI.....JULY, 1866.....NO. CCXLI.

TREES IN ASSEMBLAGES.

BY A. D. G.

By nature, trees are eminently social: human art alone separates them. When Columbus first touched these shores, he found no lawn trees, parks or avenues; no groves, even. It was all one wide stretching forest; except, it may be, where the Indian's rude axe or the fire had made here and there a clearing.

But nature does not always do things in the best way: a hint, now and then, from art helps her amazingly. In my friend's pleasure-ground, yonder, is a model specimen of the Norway Spruce, fifty feet high. Its lower branches rest gracefully upon the lawn; thence midway and up to the apex, the limbs extend outward in unbroken whorls; the foliage hanging from them like tresses, and swaying in the wind; near the top are multitudes of bronzy cones, contrasting finely with the deep green of the leaves; and the whole tree from the ground to its highest point forms a symmetrical pyramid of waving verdure. Now, if nature had had her own way with this tree,

she would have set it with a multitude of shrubs on some cold, Norwegian mountain, where, though it might have made good ship timber, its lower branches would have been killed out by the shade of the surrounding forest, and its beauty entirely destroyed. What say you also, of yonder Elm, standing alone in the meadow, with its colossal trunk so strongly buttressed at the base, then tapering as it rises, until it spreads out and supports a leafy dome, so light, symmetrical and graceful as perfectly to satisfy the eye with its grand beauty. You don't find such trees in a primitive forest.

Exceptions of this sort being born in mind, let us consider trees socially related. The young artist in composing his landscape is apt to set his trees one by one at regular distances on the canvas, like soldiers on parade. Experience teaches him to group them. And the young landscape-gardener is apt to dot his ground over with trees and shrubs the same distance apart, and perhaps

in parallel rows; but after more study and observation he finds that a better result can be attained by disposing some of them in irregular groups and masses. There are cases, indeed, where trees should be set in rows and at regular intervals; as, for instance, by the side of streets, and in broad avenues in public parks. Whoever has walked under the elms on Church street, New Haven, that long, Gothic aisle, with natural columns, vaulted roof and twilight shade beneath, will not speak lightly of such artificial planting. Yet cases like this are the exception, and the rule prevails in favor of some degree of irregularity.

Along yonder fence-row, several maples have sprung up within a few feet of each other and as they have grown from year to year, they have formed a large, rounded mass of luxuriant foliage. Being a little crowded as they grow, their trunks are thrown somewhat out of the perpendicular, but they have locked arms above, and present to the eye one vast symmetrical ball of richest verdure. In the field beyond, nature shows a more sportive mood. A scarlet maple has sprung up by the side of a rock maple, and close by is a white ash; in the rear towers a white-armed buttonwood. Here is little or no symmetry of outline, or uniformity of color, but the effect is striking in summer, and in autumn it is grandly beautiful. One of the most pleasing combinations, whether natural or artificial, is seen when a group of round-headed trees is over-topped by one or more spiry trees, like the poplar, larch or fir.

Nature does some of her finest works on the banks of rivers and lakes, where the trees shoot out with great irregularity; some hanging over the water, perhaps trailing their branches in it; others throwing their arms abroad horizontally or aloft, with ever-varying form and color of branch and leaf. If one would learn the beauty there often is in simple lines, let him study the trunks and limbs of these trees; the roots perhaps a little undermined by the water; the branches crowded forward by trees be-

hind, and bending outward over the stream to get more light and freedom, yet again ascending to maintain the balance of the structure. On hillsides and rocky precipices, trees often assume bold and picturesque forms. If they could be transplanted bodily into a smooth lawn, they would be scouted at as coarse and scraggy, and fit only for the axe and fire, but standing where nature has reared them, they possess the highest charm. They are the trees most beloved by painters and poets.

Few natural scenes are more unpleasant than a recent clearing in a dense forest, palisaded with tall, gaunt trees, and standing perpendicularly with here and there one leaning and threatening to fall, with no side branches to hide their nakedness, or to conceal the wild undergrowth behind them. The second growth of timber presents us the most handsome woods, where, the trees grow up with some degree of uniformity; those on the outside of the woods especially being well developed, billowy and graceful. Each tree follows its own law of growth, giving variety in outline, branches and spray, while all together form a pleasing, harmonious scene. "It is curious to see," says Gilpin, "with what richness of invention, if I may so speak, Nature mixes and intermixes her trees, and shapes them into such a wonderful variety of groups and beautiful forms. Art may admire and attempt to plant and to form combinations like hers; but whoever observes the wild combinations of a forest, and compares them with the attempts of Art, has little taste, if he do not acknowledge with astonishment the superiority of Nature's workmanship."

However pleasing scattered masses of wood may be, vast, unbroken forests are monotonous and gloomy. Nature, to be most attractive, must be associated in some way with human life and art. Hence it is that a woodman's cottage with its curling smoke, or a fisherman's boat on a secluded lake, gives a wild forest picture a tender, human interest and a tinge of romance.

Trees exhibit themselves best, socially, in the autumn. During the summer they hold their powers in some reserve. But when October comes, they put on their holiday attire; they gather up all the rainbows of the vernal year and twine them about their brows; they dress themselves in all the tints of sunset, and then call upon man and nature to admire.

But, leaving the domain of beauty and poetry, let us look at trees as scientifically related. The natural philosopher may not be wholly wanting in aesthetic feeling, yet he finds a peculiar pleasure in grouping trees together botanically. Who will say, too, that his heart does not somewhat inspire his scientific zeal to bring together the scattered members of each household, and so to "set the solitary in families"? But whatever the motive, it is in this way that arboreta have been established, where we find trees of different orders, species and varieties collected from all parts of the world, and classified more or less in a scientific manner.

The best arboreta of which the writer has any knowledge, are those of Chiswick and Chatsworth, England. The latter has a world-wide reputation. It embraces forty or more acres, and contains upwards of two thousand species and varieties. The trees, shrubs and plants are set near the margin of the carriage-road, which winds through the premises. They are set far enough apart to allow their full development, and to admit of the subsequent introduction of other newly discovered specimens. Being classified in families, it affords an interesting study to seek out the relationship where the external resemblance is often very slight. The name of every tree and plant is marked on a wooden label, the letters being so large, and distinctly painted as to be read at ten yards' distance. Each tree is marked with its scientific name, its common English name, its native country, the year of its introduction, and the height which it attains at maturity.

These trees and shrubs, it will be remembered, are those only which are hardy

in Great Britain, and of course many important species have to be left out. This great assemblage of rare vegetation has not cost the Duke of Devonshire, (the owner of the property,) a sixpence. The ground was prepared, the trees bought, and all the other expenses paid from the proceeds of the timber trees with which the domain was originally covered, and which were removed and sold only as fast as the room was wanted for planting. This fact indicates either that this timber was of remarkable quality, or that the price of lumber is much higher around Chatsworth than in our own country.

As this public ground is centrally situated, and is generously thrown open to all visitors, its influence must be salutary and wide-spread. Many a person imbibes here his first love of rural pursuits. Many a visitor is surprised to learn of the great variety of trees and plants which have been brought into cultivation. The day seldom passes when botanists or amateurs or nurserymen may not be seen here, examining the trees and making notes in their memorandum-books, for use elsewhere. As the late Mr. Downing said, when visiting it, "The most perfect novice in trees can thus, by walking round the arboretum, obtain in a short time much knowledge of the hardy *Sylva*; while the arboriculturist can solve many a knotty point by looking at the trees and plants, which no amount of study, without the living specimen, would settle."

We are happy to know that some of our leading nurserymen in this country are establishing arboreta of considerable extent. On some of the older estates along the Hudson, and around Boston, Philadelphia and Baltimore, valuable collections are being made, which are interesting as objects of curiosity, and not altogether lacking in beauty. And, not least in importance, several of our first colleges have begun the work of gathering into their grounds specimens of all the trees, shrubs and plants which are hardy in their respective climates. May these good works go forward to their completion.

DESIGNS IN RURAL ARCHITECTURE.—No. 15.

BY GEO. E. HARNEY, COLD SPRING, N. Y.

Our design for this month represents a porter's lodge, built about a year ago by Mr. F. P. James, and situated near the gates at the entrance to his country place in Cold Spring.

It is constructed of rough stone, quarried in the immediate vicinity, laid in its natural bed, and pointed up afterwards with light-colored mortar, and—though we ob-

ject to the use of this light mortar, preferring the softer tint of the dark—the effect of the whole is very good, the bright green foliage of the trees, by which it is nearly hidden, contrasting well with the dark gray tone of the stone.

Its walls are low, and its roof projecting boldly, covered with slates cut in an ornamental pattern. The tower, which is the

FIG. 81.—*Perspective.*

principal feature of the exterior, rises from the angle of the front nearest the public road, and contains the stairways to the chamber and cellar.

The plan shows four apartments on the principal floor, as follows:—

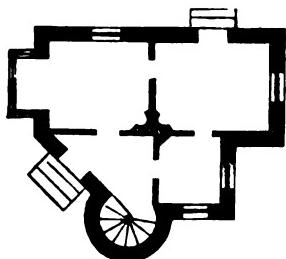
The hall is approached by two or three steps, leading to a wide porch, covered with a broadly projecting hood, supported on heavy brackets. This hood is, in fact, a continuation of the roof of the main house

beyond the eaves, as is also the roof of the bay window on the adjoining side.

The staircase in the tower is on the right of the front door, and is separated by an archway from the hall.

The room on the left, containing the bay window, is the living room, and measures 11 feet 6 inches by thirteen feet. It opens into a room 15 feet by 11 feet 6 inches, and is used as a kitchen. The other room is a bedroom, and measures 8 feet

by 9 feet. The kitchen has a door communicating with the yard in the rear.

FIG. 82.—*Ground Plan.*

The chimney is in the centre of the house, and one stack of three flues answers for all the rooms.

There are ventilators on the roof, and a dormer window to light the attic, which has one room finished off for a sleeping-room. All the principal windows are glazed with diamond-shaped panes of glass.

There is a cellar under the whole house, containing bins for coal, store closets, &c., &c

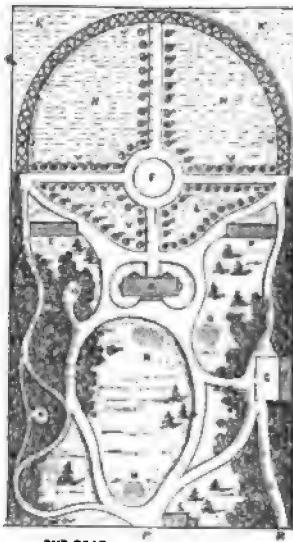
PLAN FOR LAYING OUT A THREE-ACRE LOT.

BY E. FERRAND, DETROIT, MICH.

THIS garden has the appearance of a much larger place than it really is; in fact, the plan could be applied to a place of ten or more acres just as well as to the limited space of three. The roads are numerous; it is intended for a lot in the proximate vicinity of the city, and to be occupied by a man who has means to keep it in order; this also applies to the drawing for a five-acre lot, to be given hereafter.

All these gardens are intended for the same purpose, and laid out according to the same principle; that is to say, the most is done to conceal their narrow limits, and leave one to guess how far one may be from the end of it when one is no more than ten feet from the well-concealed fence; at the same time, all the secondary buildings, such as barns, stables, &c., are very close to the main house, though they are entirely out of sight.

In the plan, smoothly-curved walks are drawn in the thickets of large trees; there is also a vine harbor, which is a handsome ornament. The kitchen garden occupies about $1\frac{1}{2}$ acre, and is in proportion to the whole extent of the place.

FIG. 83.—*Plan.*

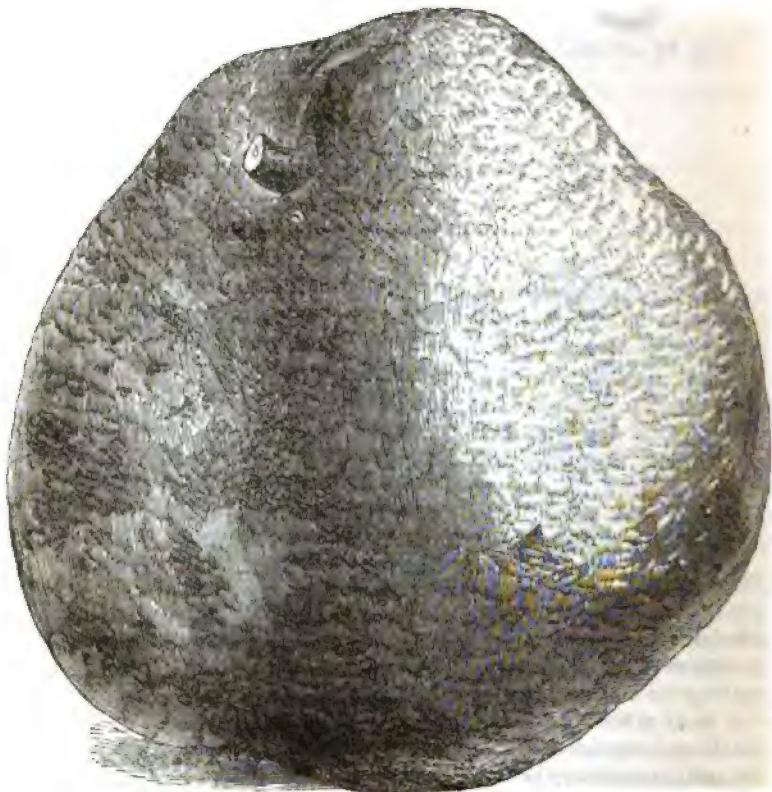
REFERENCES.

A Dwelling-House.	K Place for Small Fruits.
B Stable, Barn, &c.	L Strawberries.
C Barn-Yard, with Three Openings.	M Flower Beds.
D Greenhouse.	N Places for Rustic Seats.
E Water.	P Principal Entrance.
F Kitchen Garden.	R Entrance to the Barn.
G Grapevine Harbor.	S Gardener's House.
	V Dwarf Fruit Trees.

"HEBE" PEAR.

BY WM. SUMNER, POMARIA, S. C.

Hebe Pear.—Fruit large; specimens have frequently weighed 28 ounces. Six of fair size of this pear generally weigh eight pounds. Color, lemon-yellow, inclined to greenish; dotted all over with russet specks and deep irregular russet blotches. Stem, short, thick, in deep basin. Form, round, obovate, with irregular protuberances, sim-

FIG. 84.—*Hebe Pear.*

ilar to the Duchesse d'Angouleme. Flesh, sprightly, melting, buttery, with slight vinous flavor; has no matured seeds, and seldom forms seeds at all. Ripens in South

Carolina in December. Tree vigorous, with finely matured wood, free from thorns. Shape, naturally pyramidal.

THE CANKER WORM.

BY COL. D. S. DEWEY, HARTFORD, CONN.

"*Quis e Sabe?*" — that is it exactly — "Who knows" a preventive or cure for the periodical and pestiferous attacks of the canker worm? *Do you?* If so, have you not hid your light under a bushel? If not, then are we all equally in the dark.

Here now are my fifteen volumes of the *HORTICULTURIST*, '51 to '65 inclusive — and not one word of caution or advice on the subject. If science and experience were not somewhat at fault this blank might have been filled. Direct information would have been of incalculable service; and even negative statements would have been of great value.

Can any one,—will any one,—now furnish a positive and perfectly reliable prescription for the prevention of the ravages of this cankerpest, which has been such a scourge to certain portions of the country for the past two or three years?

I venture to offer, in advance, a supplementary summary of negative testimony on the subject;—a reference to certain proposed remedial measures, all of which, I think, and most of which I know, will not and can not be effectually used in the case: that is, without much more than the ordinary, and even extraordinary care which any pomologist can afford to give, or can be reasonably expected to give, to such an orchard as I have in my mind's eye; say of from one hundred to two hundred thirty twenty-years'-old apple, cherry, plum and quince trees.

Failing, as above stated, in my review of the volumes of the *HORTICULTURIST*, to find printed testimony, recourse was next had to parole evidence. The only knowledge thus attainable was that tar was the remedy. So, tar it was; and, for sixteen successive evenings, (commencing March 17th, 1965,) the application was faithfully made, upon some sixty choice apple trees. Many neighbors followed suit; "any quan-

tity" of grubs were caught; but the result uniformly showed a perfect waste of time and money.

(Mem. *Gas tar* was freely applied by some, directly upon the bark, without causing any apparent future injury to the tree, contrary to a generally received opinion.)

In one orchard of considerable extent, straw was scientifically arranged and tied around the trunks of the trees; in another, the soil around the collars, and for a considerable distance beyond, was up-turned in the fall, and left to the action of the frost; in another, tin collars, or capes, were nicely adjusted, some flat and some flaring; in others, lime, ashes, and other materials, were spread as a mulch, or piled up around the bodies, and so on;—*they all failed*, as did, also, even Seymour's and Allen's regularly patented tree-protectors.

Now, the prime question recurs, what shall we do next?

Mr. Seymour, (the protector-man, whose article was advertised in the *HORTICULTURIST*, last August,) tells me that he can improve upon this idea, and give us something, next fall, which will be "a surething." But his plan, (even if it could be warranted,) is rather too expensive for general adoption.

Mr. Allen, (another protector-man,) has shown me an improvement upon his arrangement, which, he asserts, is cheap and reliable. But —

"Mr. Allen," said I, "how often is this oil to be applied to your patent tins?"

"Once a day will answer."

"Once a day! If that is so, why not use tar, which will remain sticky for at least twenty-four hours, and is comparatively inexpensive?"

I report, in brief, only the substance of our short colloquy; the fact is that the same plan has been tried by others, as well

as myself, and rejected, as involving too incessant attention.

For my own use I, also, compounded and applied a slow-drying varnish, which I thought was just the thing, but the punc-tured leaves of my cherry and apple trees prove its inefficiency.

Mr. Hovey tells us, in his May number, that canker worms "may all be destroyed by a thorough syringing with whale oil soap." My opinion is that farmers and orchardists can never be induced to purchase, and apply to such a use, the requisite syringes and soap; nor be made to think that they can spend their time in sudsing off the underside of each leaf on a hundred or more trees.

Neither do I think that they can be persuaded to box around the trunks of a hundred or more trees, and pack with sawdust, and arrange nicely-soldered oil-troughs to entrap the moths and larvae, as recommended by some.

Neither have I full faith in the use of the murate of lime, so highly recommended by the *New England Farmer* of April 28th; but if any union of hydrogen and chlorine with a base from which carbonic acid has been expelled, will compose a material which will destroy insect existence, and, at the same time, increase vegetable vigor, it would seem that its application to soils filled with such noxious things as canker-worms should be made, by way of further trial.

Has any one in "our parish," tried it?"

This incomplete article,—intended more as a simple finger-post to warn off from the wrong way, (or to tell "what not to do,") rather than a correct guide-board to show the true way,—would be more incomplete without the addition of the following brief description of "the enemy," and some of his antecedents and surroundings.

We may find the first indication of the dreaded presence of the canker worm quite early in the fall, when forking up the soil under our fruit trees, for their dressing of manure or mulch. It is then made visible

in the shape of a light brown chrysalis. (Fig. No. 85.) By the way, these are readily



FIG. 85.—*Crysalis.*

devoured by poultry, and I judge from my experience, last fall, that if I had but half a dozen choice trees to protect, I could do it quite effectually by carefully exposing the soil, (from three to four inches in depth) and breaking it up so that my hens could get at the chrysalides, and thus make away with them in their embryo state.

Its next appearance is in the form of the male miller, (Fig. No. 86,) and the female



FIG. 86.—*Male Moth.*

grub. The male, with the aid of its wings, can, of course, fly from the ground to any part of the tree; but the female is obliged to crawl up the trunk; and it is to prevent her ascent that the main efforts of the



FIG. 87.—*Female Moth.*

fruit-grower are to be directed; to entrap and destroy the vermin in this stage of its progress, if not previously destroyed while in its chrysalid condition. The precise time of its appearance may vary with the character of the season; its first occurrence last year was on the evening of March 15th, and its second, October 28th.



FIG. 88.—*Eggs.*

Meanwhile, we find it in the egg, (Fig. No. 88,) deposited, generally, in small clusters, in

the forks of the spray, but sometimes on other parts of trees; and even upon fences and out-buildings.

Finally, we again recognize it in the shape of a tiny black worm, simultaneously



FIG. 80.—Canker Worm.

developed with the first young foliage of spring. It rapidly increases in size until it appears to be full grown (Fig. No. 80) about the middle of June, when it descends to the ground, spinning down its spider-like web from the limbs, whose leaves and blossoms have been entirely consumed by it; leaving the tree with the appearance of having been scorched, as by fire.

HINTS ON TRANSPLANTING EVERGREENS.

BY CHAUTAUQUA.

THE WARM SUMMER MONTHS, now at hand, are the best time in the year for transplanting evergreen trees, and a few short hints on the subject may not be amiss. A large percentage of nursery-grown evergreens, and probably three-fourths of these trees taken from the forest, are killed outright in transplanting, simply on account of ignorance of the necessary precautions to be taken in their treatment at the time they are transplanted, and afterwards.

The principal thing to be observed is, never to let the roots see the sun, or feel the wind, long enough to lose their surface moisture. The reason for this is not agreed upon by all vegetable physiologists. Hon. John H. Klippert, so widely known in connection with Ohio agricultural matters, in a conversation on the subject, gave me, as his opinion, that the bark of the roots of evergreens, and many other plants, is as sensitive to light as are the chemicals of the photographist, and that the rays of sunlight, either direct or refracted, produced a chemical change in the bark, or vessels therein, injuring them to a greater or less extent.—In support of his theory, Mr. Klippert can certainly show some good evidences. Evergreens, and some wild flowers and plants from the woods, in his grounds at Columbus, Ohio, are much thriftier if transplanted in night!

My own theory is, that if the sap in the roots, which is more or less resinous, is suffered to become even partially dried by the

sun or wind, it (the sap) is rendered thicker, and becomes almost, or quite, indissoluble, choking up the vessels or ducts, and thus rendering the roots incapable of assimilating the necessary food for the growing tree from the surrounding soil.

Whatever the theory, the fact remains, that if the roots of evergreens are kept moist and shaded from the sun, these trees, are, as a class, more sure to grow when transplanted than any other living plants, except some weeds.

Furthermore, if possible, get the evergreens from a good nurseryman, who is a good propagator, and, if to be shipped to any distance, who will pack the trees so that the roots will keep moist, and the foliage and branches cool and dry. Nursery-grown trees are already prepared as to their roots for transplanting, many or all the rootlets remaining on the roots, while trees from the forest unavoidably lose nearly or quite all the rootlets, unless the trees are very small when transplanted.

As to the time of year, from the first of May to the end of August is as good as any time, provided always that the roots are kept covered and moist. I have taken hemlock from the woods in August with better success than in April or May. They seem to do better when the sap is in motion than before or after.

Lastly, set out plenty, and you will get the benefit, and also the thanks of the next generation.

E. W. BULL ON GRAPE CULTURE.

BY J. M. MERRICK, JR., WALPOLE, MASS.

The *Massachusetts Ploughman* is publishing a series of short, practical papers on the open air cultivation of the grape, written by the Hon. E. W. Bull, of Concord, Mass., the originator of the Concord Grape, and a cultivator of the vine, whose experience and success have given him a very honorable position among the horticulturists of this country.

The solid basis of fact and experience on which Mr. Bull's papers are founded, and the general soundness of his views, make me think that a brief *resume* of these Essays, with such criticisms as may not seem impertinent or presumptuous, will be acceptable to the numerous readers of the *HORTICULTURIST*, and I therefore ask leave to present a sketch of the learned Vigneron's remarks, with a word of comment of my own.

In his first paper, Mr. Bull discusses the question whether grape growing is profitable or not, and answers it in the affirmative. He says, "the Concord is the only grape I cultivate on a large scale, and that for sixteen years has not failed to give me a remunerating crop.

One acre of well-established, healthy vines, will give about seven tons of grapes, worth at wholesale, on the average of the last four years, fourteen cents per pound, or about 2,000 dollars. This amount, large as it is, has been exceeded in many cases, but if you reduce the result one-half, you still have one of the most profitable crops known to our husbandry." (I may say in parenthesis, that two of the largest grape-growers in this State tell me that they make \$1,200 per acre per annum with the Concord.)

"At present, and indeed for a long time to come, the market price of the fruit will be so high as to prevent the making of wine to very great extent; but whenever the crop of fruit becomes so abundant that

the price declines, wine will be made in large quantities, and its manufacture will be found more profitable than selling the fruit.

No other farm crop requires so little of the farmers ready capital, manure, as the grape.

I have vines which give me annual crops of one hundred and twenty pounds each, and which have had no manure for ten years. I have no occasion to give the Concord any manures except a dressing, once in three years, of twenty bushels of bone-dust, twenty bushels of unleached wood ashes, and five bushels of plaster of Paris to the acre, spread broadcast and harrowed in."

I believe that we are gradually reaching a more rational view of the wants and requirements of the grape, and that Mr. Bull is right in what he says about manures. For vines that are to bring money into the owner's pocket, the days of deep trenching and high manuring are past and gone. Certain kinds of grapes, as the Iona and the Delaware need a rich soil and the highest possible cultivation, and this is a great pity, for if the Iona had the freedom of growth and vigor of the Concord, we should not have much further to go to find the perfect grape.

A vine that requires constant attention and petting, and a considerable annual outlay for manure, can hardly be cultivated with profit on a large scale.

I have seen the vines of which Mr. Bull speaks, in full bearing, and can testify to their splendid appearance, vigor, and capacity to produce loads of fruit. They had had no manure for ten years, but their owner proposed to give them a slight dressing of ashes the present season.

Mr. Bull advises planting vines in rows running north and south; the rows being ten feet apart, and the vines six feet apart in the row. This gives sixty square feet to

vine, and facilitates working with a horse and cart in the vineyard.

The following is the estimate of the cost of planting an acre:—

'26 vines, at \$25 per 100.....	181 50
40 loads compost.....	40 00
Ploughing.....	6 00
Carting and cross-ploughing.....	3 00
'26 poles at 1ct	7 26
Planting, two men, ten days.....	30 00
	—
	267 76

There will be a difference in the cost in various localities, but the above is a fair average. Mr. Bull, we presume plants two year old vines, judging from the price he gives, for first class one-year old Concordes can be bought for ninety dollars per thousand.

The forty loads of light compost is to promote the formation of roots the first year, and the application of the compost is not to be repeated.

Mr. Bull's second paper is devoted to the operation of planting, and we quote the substance of it, condensing a little here and there for the sake of brevity:

"Having prepared the ground for planting, open a furrow on each side of the line in which the grapes are to be placed, and two feet from it, turning the earth towards the middle of the bed and ridging it lightly.

Let one man bestride this ridge at the end of the line, and throw out the soil to the depth of six inches over a space four feet square, i. e., let him form a bed for the line four feet on each side, and six inches below the general level of the field. A second man having placed the vine in the centre of this table and spread the roots out; the first man, still bestriding the ridge, must step backwards and throw out from between his feet soil enough to cover the roots to the depth of six inches, thus planting one vine and making a bed or table for the second. The earth for covering the first vine in the row is taken from the end of the second row, that from the last in

the second, from the third, and so on, and two men can thus plant with ease and rapidity. If the soil is wet and strong the vines should be planted four inches deep instead of six, this being the distance from the surface the roots are usually found when they have the power of selecting for themselves. Never shorten the roots of a grape vine. You may cut the top in within two eyes of the level of the ground, but by all means save all the roots."

To recapitulate, we may say that in these two papers Mr. Bull recommends a light, warm friable soil, not too rich; advocates the use of mineral manures only, and these in small quantities; advises us to give each vine sixty square feet of room; to plant shallow, without shortening the roots, and, though this we should have put first, he insists that grape growing is profitable

While waiting for the third article of this series to appear, an opportunity is given, perhaps, to say a word or two about the Concord grape, and its relation to other varieties. Passing by those growers who call the Concord "horrible," "containing not a single element of goodness," we come to the class that declares it to be a good grape, but now surpassed by better kinds, and that its day is drawing to a close.

Nothing could be further from the truth than this last notion.

Neither Mr. Bull, nor the present writer, nor in fact anybody of common sense maintains that the Concord is the best out-door grape we have, for all know that there are many kinds superior to this variety. The Diana is a better grape; the Delaware is decidedly superior; Allen's Hybrid and Iona, in point of flavor, leave the Concord out of sight,—and, in fact, we might go on and name other grapes that for table use claim a place in the garden with much better right than the variety we are discussing. We met a refined connoisseur the other day who professed to detect something "earthy" (!) in the flavor of the Concord, but without pretending to any such delicacy of taste, we admit that the Concord is a second class grape.

Making this inevitable concession we find on the other hand an immense volume of testimony in its favor. From vineyards scattered from Maine to Kansas comes proof that the Concord is hardy, is a sure and regular bearer, is vigorous and easy of propagation, grows well in a poor soil, and does not do badly in a rich one; endures the extremes of neglect and ill-treatment, and produces fruit that sells readily, and makes a good wine.

Has any one well-known variety now cultivated in the United States an equal mass of evidence in its favor? We think not.

Delaware Grapes were forty cents per pound in the Boston market last year, and Conards twenty-five cents, both these, of course, being the retail prices.

The latter kind may have sold so low as twenty cents some days, but we saw none at less than twenty-five.

Its wine-making properties have been settled decisively by Mr. Bull, in Massachusetts, and Mr. Husmann, in Missouri, and thousands of experimenters on a smaller scale.

I solicited last year the opinion of the three largest growers of grapes in Massachusetts respecting the Concord, and received the following answers:

The first says, "I know no grape possessing so many good qualities, either for the table or for wine as the Concord." The second writes: "I regard the Concord decidedly the best out-door grape that has yet been proved for field culture." The third says, "All things considered the Concord is the best grape with which I am practically acquainted."

It is needless to accumulate more evidence, and I should not have said so much if I were not tired of hearing people talk contemptuously about a grape whose work is not yet half done, and for an index of whose popularity the sales books of our leading propagators may safely be consulted.

We hear that Rogers' 4 and 19 are to take the place of the Concord. If they are better, harder, more productive and vigorous, we shall all welcome them with open arms, but until we have conclusive proof that the Concord is surpassed we shall cling to it as to an old and faithful friend.

That the best out-door grape we now have is nearly as good as varieties that will appear and be disseminated in less than a score of years, we cannot believe.

The chances of getting improved kinds are too many; the experimenters too numerous, and their enthusiasm too genuine to leave any doubt about the result.

THE ORIGINAL RED BEECH TREE.

BY HORTICOLA.

Geo. B. Emerson, in his report on the trees and shrubs of Massachusetts, has the following, in regard to the original red (or purple) beech tree, on page 63:—"Among the most remarkable, are the purple, or copper beech, and the weeping. The original tree, from which all the varieties of the former of these have been propagated, is said to have been discovered by accident, in a wood in Germany, towards the end of the last century, and is supposed to be still standing."

If a man of Emerson's extensive knowledge of trees had no better information of a tree so remarkable, and propagated and planted in all parts of the globe where the climate is adapted to the growth of the beech, it cannot be expected that others are better acquainted with it. As I was born in a village near enough to the place where that tree is still growing to enable me, when a boy, to go there often to look at it and to admire it, I concluded to write something about it, thinking that such a

account might be of interest to those who like to investigate the history of our cultivated plants.

The original red beech tree is found in Thuringia, a part of Germany, lying between the Harz Mountains and the Thuringian Forest. Thuringia had formerly a sovereign of her own; then the city of Erfurt was her capital. At present, it is divided among Prussia, the principalities of Schwarzburg-Sondershausen and Rudolstadt, the Grand Duchy of Saxe-Weimar, &c. Parallel to the Harz Mountains, at a distance of about ten miles from them, there stretches from west to east a calcareous ridge (shell lime), called the *Hainleite*, or *Hagelalte*, which I mentioned in this magazine several years ago (See HORTICULTURIST, 1861, p. 262). On the southern declivity of that ridge is the original red beech tree, still growing. The exact spot where it is standing is about five miles to the south of the city of Sondershausen, the capital of the principality of Schwarzburg-Sondershausen. The village nearest to it Ober Spira.

Although I saw the tree often in my childhood, I did not wish to trust my memory. Many years have elapsed since that time, many events have crossed my path of life, so I felt unable to depend exclusively on my recollections. I, therefore, applied to a gentleman, than whom, there cannot be found a better or more trustworthy author in all Germany. That gentleman is A. Magerstedt, D. D., minister of the Government at Grossen, Ehrich, and counsellor in highest ecclesiastical board at Sondershausen (Consistorial Rath). His place of residence is not quite five miles distant from the original red beech tree. Dr. Magerstedt is not only one of the most profound in and Greek scholars, having published a number of books on the agriculture of the Hans, but he is also a scientific as well as a practical farmer himself. His zeal and enthusiasm to excite and promote the interests of farming and farmers is so great, that he founded the Agricultural Society at Son-

dershausen many years ago. As president of that society, he has already published twenty-five volumes of its transactions.—His work on the management of trees is considered classical, like another one on the gradual development of agriculture in the principality of Schwarzburg-Sondershausen. He is honorary member of a large number of agricultural societies in Europe, and has been honored by kings and princes with orders; and by universities and literary societies with many tokens of their respect and admiration.

To my inquiry, he replied kindly and promptly. His letter is dated January 16, 1866. His statements concerning the tree in question are so full and accurate, that it would be wrong to suppress even the smallest part of them: they cover the whole ground, and form the basis of the history of that interesting tree. They are invaluable, both for the scientific botanist and the amateur. The readers of the HORTICULTURIST will, I hope, peruse the translation of Dr. Magerstedt's letter with pleasure.—He writes as follows:

"That the red beech is of Thuringian origin, is shown by Dr. J. M. Bechstein, the great ornithologist. See Bechstein's Forest Botany (Forst-botanik), fourth edition from page 238. The original tree is growing in the forest of Oberspira, a village belonging to the principality of Schwarzburg-Sondershausen, not far from the north-west corner of the *Cliff Valley Meadow* (Klippenthals-Wiese), in the *Hainleite*, or *Hagelalte*, the ridge mentioned in the above. The tree which is an ornament of the beautiful forests of the *Hainleite*, is standing on a deep clay soil, overlaid with rich vegetable mold. The clay rests on shell lime rock. It is about 100 feet high; its diameter, from east to west, is 2 feet and 10 $\frac{1}{2}$ inches, from south to north, 2 feet and 11 15-16 inches. Some branches appear at a height of 20 feet, but those of the true head at a height of 30 feet from the ground. The diameter of the head is, from east to west, 68 $\frac{1}{2}$ feet; from south to north, 64 feet. The head is, at

the south and east sides, not well balanced or proportioned; it is not compact enough; at the west and north sides it is better.—The age of the tree is estimated at from 170 to 180 years. There are four common beech trees (*fagus sylvatica*) in its immediate neighborhood, nearly of the size of the red beech.

Bechstein asserts that the seed from the tree rarely produces red, but generally common beeches. Experience shows that he is not quite correct in this respect. If the nuts are taken from branches inside the tree, success is almost certain, while nuts from the outside branches are often the product of the pollen from the neighboring common beeches, yielding, for this reason, beeches with green leaves. This was proved in 1823 and in 1829, by direct experiments instituted by the Government, and corroborated in 1839; for in 1842 there were about sixty seedlings, showing the characteristics of the mother plant, growing near it, every one of which was, however, stolen and sold. In order to protect seedlings as well as grafts, nurseries have been established, so that, since 1842, the number of red beeches has very much in-

creased. Now the turnpike leading through a narrow defile or ravine of the Hainleite, called *The Geshling*, is lined with red beeches.

Those grafted on the common beech change the color of their leaves gradually, according to their increasing age; they are darker than those of the mother tree, so that some are black red. Where a number of such grafts of different ages are growing together, it is easy to observe the change of the color of the leaves, the youngest being the lightest, the oldest the darkest.

Should you wish to read all that is known and that has been done in regard to the red beech, you will find it in the Translations of the Agricultural Society at Sondershausen for the year 1842; page 65."

Many readers of the *HORTICULTURIST*, as well as scientific amateurs, will be very thankful to my learned friend, Dr. Magerstedt, for the pains he has taken in giving an account so full and interesting of a tree which is so widely disseminated, and which, as a *Lusus Naturae*, has inaugurated that love for similar trees and shrubs, now ornamenting our gardens, parks, and pleasure grounds.

NOTES ON THE MAY NUMBER.

ABOUT THE GRAPE.—The writer has given facts and points that may, perhaps, induce some new rules in grape locations; at the same time, he has cut so hard on some of the "grape savants," and the horticultural world generally, that I shall look to see him handled, as the boy said, "pretty severely." The grape is fast becoming a very important item in its amount of revenue to our country, and any and every factor or opinion tending to its successful culture should be pleasantly and thankfully received. If the next meeting of the American Pomological Society would appoint a committee to collate the facts obtained and opinions given relative to soils adapted to varieties as well as the uses and

values of varieties, they would do much in aid of information now accessible only to comparatively few persons.

DESIGN FOR A COUNTRY HOUSE.—The design exhibits taste, and is well drawn. I have, in previous notes, stated my doubts as to the universal adaptability of this style of architecture. On the borders of the Hudson, some points on the Ohio, sections of Pennsylvania and of Massachusetts, possibly one or two small sections of Connecticut, may, in their natural formations, harmonize with the gothic-pointed style of architecture; but, as a rule, I doubt the adaptability of the style. Another thing that in my mind opposes it is, that while it is good when fully carried out, and co-

structed of material to sustain its grandeur and beauty, cheap inch board carvings, verge boards, arches, &c., are an abomination, and result more in annoyance and cost for repairs to the owner than in pleasing association to the observer. Some years since, the Grecian column was entailed on every house, from a one-story cottage to state buildings, and with, perhaps, just as much appropriateness as any one style of architecture can be adapted to all uses and situations; yet we all know how the use of the Grecian, so common all over the country, came rather to annoy than please. I would, therefore, caution all builders to study well their natural locations, their wants and means of keeping up a style, ere adopting any design, no matter how pleasing its architectural effect.

PLAN FOR IMPROVEMENT OF GROUNDS.—A capital design, and, from description, has been well carried out. There is one thing, however, which, although it involves considerable labor, I would much like to see connected with these designs, and that is, a showing of position and kinds of the various trees. The grouping of trees, setting forms, habits of growth, color of foliage, &c., I find one of the items wherein most planters are deficient. It requires a natural taste, and years of careful study, to enable a planter to so arrange his trees, that, with little or no care, the end of ten years will show them well and harmoniously grown and grouped. I have no doubt Mr. Umann can do it, and suggest that he give us a little plan adapted, say, to a forty feet front by one hundred deep. I recently saw grouping of trees in this manner, viz., a Scotch pine in the centre, three tall firs surrounding, and an elm at a great distance, the gardener having obtained the idea, that there must be an unequal number of trees in a group, and that one must be planted a little away from the others. Was he right, think you?

DESIGN FOR A GRAPE ARBOR.—A very fine design, and one that will well suit many places. I have no disposition to place

my design in competition, but for some years I have superintended the construction, from time to time, of grape arbors in this way: My posts are turned of locusts or cedar; set three feet in the ground, and seven feet out of the ground; a quarter inch iron rod is sprung from the top of each post to its opposite, to form the arch, or roof; to the posts on the sides, No. 9 wire is fastened laterally, by staples driven into the post; and the same wire to the arch rods overhead, by a twist at each end, and by winding with smaller wire at each crossing of wires. This forms a light trellis; the tendrils of the grape cling to the wire, requiring little or no care in training, and there is no breaking away of slats or other woodwork.

PEARS.—*Emile d'Heyest and General Tolleten*.—With the first-named I have some little acquaintance, and doubt not Mr. Downing's description, for we all know him in fruits to be generally correct, but he must have had the fruit in better condition than I have. My notes of it, with a shaded drawing, made two years since, place it as "rinous, melting, pleasant; good second quality."

PROPAGATION OF HARDWOOD GRAPES MADE EASY.—Thanks for this plain statement. It is one more proof that all of grape-growing has not been written in the books, and that experiments are now being made of new methods, resulting in better success than following the practise of the old guide books.

PLANTING STREET TREES.—I wish every owner of a country home could read and profit by this article, as profit he must who reads it. The filling up around trees with manure is often practised, and counted by those of little acquaintance in tree planting as the "very best way." I recently examined two trees, the owner of which wondered what had killed them. Both had a mass of manure around the crown and upper roots, the fermenting of which had affected and destroyed the flow of sap.

There is one other item in connection

with street planting of country roadsides that should be heeded, and that is the moving a fence temporarily—i. e., three or four years—out on to the line of road, thereby narrowing and detracting from the appearance and value of the lands as much or more than the trees, hedges, &c., advances it. Add to this the slovenly practice of throwing all the waste brush, dead briars, &c., upon the road side, and you have a man before you that deserves preaching to, if nothing more.

CORDON DWARF APPLE TREES.—An article illustrative of the practice which the present writer has endeavored to induce some gardeners to adopt. It is even of less trouble, once the form is established, than the keeping in form of dwarf bush trees. I am glad to see an advocate, and hope, now the *Horticulturist* has touched it, that gentlemen's gardeners will devote a little time to its practice.

GRAPE CUTTINGS FROM MODERN HISTORY.—The record here collated of the ca-

priciousness of the vine in France and elsewhere, is analogous to what Mr. Elliott, in his "About the Grape," would apparently have us understand, as a point to study in its culture in this country. All these records are worthy the attention of those who look to profitable results in grape growing. If that new white grape, superior to Dr. Grant's *Anna*, produces any fruit this season, I hope Mr. Reid will let us see it.

SHOULD PLANTS BE "CROCKED."—Thanks to Mr. Cowan for bringing out from Mr. Henderson this article. Although a little *crisp*, the readers of this journal have gained in getting full reasoning for a practice new to many.

NOTES ON GRAPE CULTURE.—Another collation of facts and observations of value to all grape-growers. I am glad to see this record of the quality of Rogers' 15 grape. I have no doubt this variety will prove one of very best of hardy grapes, both for table and dry wine purposes.

REUBEN.

SIR THOMAS BROWNE'S GARDEN OF CYRUS.

SEEING, Messrs. Editors, in your well-spread and abundant TABLE for January, a tid-bit, or *bonne bouche*, from Sir Thomas Browne—for many years one of my favorite and familiar authors—I take leave to send you a brief notice of him, and of his quaint and curious work whose title I have written above.

Sir Thomas was born in London in 1605. After a liberal education at Winchester and Oxford, he settled at Norwich as a physician in 1636, and retained an extensive practice in the city and county to the end of his life. In 1641, he married Mrs. Dorothy Mileham, "of a good family in Norfolk." In 1642, his *Religio Medici* was surreptitiously printed. Even in those "dissonant times"—to use the gentle phrase of Harry Lawes, who lived in them—this book of serene wisdom found so many

readers that two editions were immediately disposed of. It came out under the author's sanction the following year, and numerous re-impressions were called for in his lifetime,

The splendid success of the *Religio Medici* most likely took its author by surprise. Though possessed of a moderate sense of his own ability, and a respectable independence of spirit, he was far above the arrogance of vanity. It may be believed that most writers who eventually attained great popularity, although they might have some instinctive consciousness of the power within them, were yet unable to guess exactly how or when it would receive a public recognition. They just let their inspiration have its utterance. Nor, in many cases at least, could they subsequently tell with precision what it was in their writings

which had fastened on them so universal a sympathy. The bond of attachment between an author and his reader may be too subtle for analysis. Perhaps, granting even a superabundance of genius, with all the acquired skill of practice, disappointment would be the fate of him who determined to sit down and compose, resolutely, a book which should take, as decidedly and confessedly as the *Pilgrim's Progress*, *Robinson Crusoe*, or the *Religio Medici*.

All Sir Thomas' subsequent works were written in Norwich; and not a few minor pieces, specially local, were the results of his industry and love of letters. In 1671, he was knighted by Charles II., when on a visit to the ancient palace of the Howards in Norwich. In 1682, eleven years later, he died, after a short illness, in the 76th year of his age.

Of those productions which take high rank in a formal list of *opera omnia* the *Garden of Cyrus*, which was first published in 1658, is the least inviting, though eminently characteristic of its author, as is at once shown by the second title, namely—"The Quincuncial Lozenge; or Network Plantation of the Ancients, Artificially, Naturally, Mystically Considered." It must be regarded as one of the most fanciful of his works; and the most eminent of his admirers have treated it as the mere sport of the imagination. These are, as Coleridge says, "Quincunxes in Heaven above; quincunxes in earth below; quincunxes in the mind of man; quincunxes in tones, in optic nerves, in roots of trees, in leaves, in everything." The quinary theory of created things, as propounded by some few modern naturalists, would have been a wonderful suggestion to Sir Thomas.

The *Garden of Cyrus* is so styled because, as Browne says, "all stories do look upon Cyrus as the first splendid and regular planter. According whereto, Xenophon (*Economico*) described his gallant plantation at Sardis, thus rendered by Strobæus—*Arbores pari intervallo sitas, rectos ordines, & omnia per pulchre in quincuncem directa.*—

That is, the rows and orders so handsomely disposed, or five trees so set together, that a regular angularity and thorough prospect was left on every side; owing this name not only to the quintuple number of trees, but the figure declaring that number, which, being double at the angle, makes up the letter X—that is the emphatical decussation, or fundamental figure.

"Now, though, in some ancient and modern practice, the area, or decussated plot, might be a perfect square, answerable to a Tuscan pedestal, and the *quinquemio*, or cinque point of a dye, wherein, by diagonal lines, the intersection was rectangular—accommodable unto plantations of large growing trees—and we must not deny ourselves the advantages of this order, yet shall we chiefly insist upon that of Curtius and Porto in their brief description hereof, wherein the *decussis* is made within, in a longilateral square, with opposite angles, acute and obtuse at the intersection, and so upon progression, making a rhombus or lozenge figuration."

With this lozenge as his sole guide, Sir Thomas starts at full gallop on his literary steeple-chase. If he halts a moment for refreshment, it can only be at the sign of the Chequers. He becomes more and more excited by the game; but diamonds are trumps at every hand. He finds even the Garden of Eden laid out in the Dutch style, and probably full of quincunxes. "Since in Paradise itself, the Tree of Knowledge was placed in the middle of the garden, whatever was the ancient figure, there wanted not a centre and rule of decussation." Of course not; where there is a will there is a way to lozenges.

Again, Sir Thomas—"The networks and nets of antiquity were little different in the form from ours at present. As for that famous network of Vulcan, which enclosed Mars and Venus, and caused that unextinguishable laugh in Heaven, since the gods themselves could not discern it, we shall not pry into it. * * * Heralds have not omitted this order or imitation thereof,

while they symbolically adorn their escutcheons with maces, fusils, and salutes, and while they dispose the figures of ermines and various coats in this quincuncial method. The same is not forgot by lapidaries while they cut their gems pyramidal or by sequirural triangles. Perspective pictures, in their base, horizon, and lines of distances, cannot escape these rhomboidal decussations. Sculptors, in their strongest shadows, after this order do draw their double hatches."

And so on, *ad infinitum*, it might be. Sir Thomas stops only because he chooses to stop, not because he has run himself dry.—There are digressions, it is true, but not of wide circuit. We do not regret them when they contain passages like the following:—

"Light that makes some things seen, makes some invisible; were it not for darkness and the shadow of the earth, the noblest part of the creation had remained unseen, and the stars in Heaven as invisible as on the fourth day, when they were created above the horizon with the sun, or there was not an eye to behold them. The greatest mystery of religion is expressed by adumbration; and in the noblest part of Jewish types we find the cherubims sha-

dowing the mercy-seat. Life itself is but a shadow of death, and souls departed but shadows of the living. All things fall under this name. The sun itself is but the dark *simulacrum*, and the light but the shadow of God."

But the moment the clock strikes five in any way, Sir Thomas is back again amidst his pentagons, quincunxes, and lozenges.—He nauseates "crambe verities and questions over-queried," and informs us that the "noble Antoninus doth in some sense call the soul itself a rhombus." This proposition is the sum of all things, and therefore, as he says "'tis time to close the five ports of knowledge" on this transcendental matter. But we cannot even walk away from his symmetrical garden without being reminded, finally, that "the incession or local motion of animals is made with analogy unto this figure, by decussative diametral, quincuncial lines, and angles," and that even in the motions of man, the legs "do move quincuncially by single angles, with some resemblance of a V, measured by successive advancement from each foot, and the angle of indenture greater or less, according to the extent or brevity of the stride."

S. T. D.

THE CAMPANULA.

BY F. PARKMAN, JAMAICA PLAINS, MASS.

THE family of the Campanula is one of the largest among the Herbaceous Perennials, and some of its members are of remarkable beauty. Perennials, a description of plants which a caprice of fashion has for some years past thrown into the shade, are beginning, by a healthy return, to resume their natural place in horticulture. They vary indefinitely in value and character, and while some are mere weeds, others are among the most beautiful of flowering plants. We propose to draw attention to

a few of them, and we begin with the Campanulas.

There are at least a hundred and fifty species in the genus, and some of them have many varieties; so that of the Campanulas it may be said that their name is legion. Some are perennial, some biennial, some annual, some are hardy, and some are tender. There are several allied genera, such as *Adenophora*, *Wahlenbergia*, *Platycodon*, and *Canarina*, which some botanists merge with the Campanulus, and which have so close an

affinity with them, that for horticultural purposes they may be regarded as one. We will therefore consider them all under the same head.

Perhaps the best known of the whole race is *Campanula Medium*, the familiar Canterbury Bell. It is a biennial, and must be raised every year from seed. There are at least five or six varieties of it :

First, the original species, the old blue Canterbury Bell; then the white variety; then the lilac; then all these sorts, double. The double kinds are, to our thinking, less to be desired than the single; for, with them, the concavity of the bell is stuffed with what looks like a confused mass of crumpled petals, which destroy the peculiar beauty of the flower. Unlike many other double flowers, they yield seed pretty freely, and this seed produces a good proportion of double-flowering plants. Canterbury Bells thrive best in a rich garden loam. They should be raised from seed in a greenhouse or hot-bed, and planted out in May where they are intended to bloom. Treated in this way, they will make a very strong growth during the season, and the bloom will be proportionally fine. Or they may be sown in the open border in May; but in this case, neither the growth or the blooming will be so vigorous.

There is another *Campanula*, much less known than the Canterbury Bell, but exceedingly fine and well worth cultivation.

We are in doubt whether to call it a true perennial or not. On one occasion, after blooming properly in the second summer, it died like a Canterbury Bell; but, on the other hand, we have now a bed of it which has remained in fine blooming condition for several years, and promises this season an abundant crop of flowers. This species is *Campanula Macrantha*. The flowers are large, elongated bells, of a deep purplish blue, growing in tall spikes, somewhat like Foxglove, and the plant, when in bloom, has much of the same stately character. It is exceedingly well worth cultivating.

Campanula punctata, sometimes called *Campanula nobilis*, has long, drooping, tubular flowers, which, in one variety are purple, and, in another, white with purple spots. The latter are very beautiful, hanging in clusters from stems some two feet high, and drooping with their own weight till they are almost vertical. This species, like many others, is easily increased, by dividing its creeping roots; but the best plants are those raised from seed, which flower vigorously the second year. *Campanula punctata* is a true perennial, and has proved, with us, perfectly hardy.

Campanula trachelium, and *Campanula rapunculoides* have no little beauty, and would be well worth a place in the garden, were it not for their vicious habit of throwing out long, underground roots, which, if left undisturbed, would take possession of the entire bed. These roots insinuate themselves among those of other plants, grow up under their shelter, and commonly end by overpowering and destroying them.

Campanula persicifolia is entirely free from this propensity; for though it increases fast by its offsets, its growth is open and above-ground, and never becomes a source of annoyance. It is, moreover, one of the most beautiful of the family. There are at least seven varieties of it worthy of notice; the single blue, the single white, the large flowered blue, or *C. persicifolia maxima*, the two double varieties, blue and white, and lastly the two *crowned* varieties, *C. persicifolia coronata*, blue and white. These are, in fact, semi-double, and are of beauty not inferior to the double sorts. The last are less vigorous in growth than the other members of the family, and the double white variety is occasionally winter-killed in New England. Like other *Campanulas*, they thrive in a good garden loam, well enriched with rotted leaves and very old manure, and are easily increased by dividing the roots in August or September.

Campanula Carpatica is a low-growing kind, sometimes used for edging, a purpose

for which its neat, compact foliage, and the beauty and profusion of its bell-shaped flowers very well adapt it. There are blue and white varieties, and also a cross between the two, known as *C. Carpatica bicolor*, though the name is inappropriate, for the colors, instead of being distinct, are merged into one,—a white, faintly tinged with blue.

Campanula pyramidalis is, when well grown, a superb plant. It has a thick, fleshy root, a rounded or heart-shaped leaf, and immense spikes of bloom, shooting up from the crown of the root to a height of five feet and sometimes more, and set thickly with flowers from the summit nearly to the base. A strong plant will produce six or eight of these flowering stems. As the flower-buds are innumerable, and as they develope in succession, flower succeeding flower along the whole length of the spike; the bloom is of great duration, continuing for weeks together. This Campanula was once in great request as a decoration of halls, staircases and the capacious chimney corners of English country-seats of the last century. Nor is it yet out of favor. Not all the exotics which English horticulturists have gathered from the four quarters of the globe have availed wholly to supplant it. It requires good culture to develope all its beauties. The best plants are raised from seed, though it may also be increased by cuttings of the roots. In the open border, it makes a handsome and effective decoration; but to be shown to the best advantage, it should be grown in a pot. The young plants, from the seed-bed may be potted in a four-inch pot—or smaller, if necessary—in a soil rich in vegetable matter, but with little or no animal manure. As the roots fill the pot, shift them into one a little larger, and repeat this process until the plant has reached its full growth. In this country two summers will suffice for this. In England,

more are said to be required. The object of this repeated shifting is to prevent it from blooming till it has reached its greatest size and strength. In winter, it must be sheltered in a cold frame or cellar, and kept moderately dry, but, during the growing season, it demands an abundance of water. When its maturity is reached, you will have a dense tuft of vivid green leaves, some two feet in diameter, whence the flowering stems will soon begin to rise. These may be trained with sticks, in a fan shape. *Campanula pyramidalis* is not perfectly hardy here.

Among all the Campanulas, we prefer the species *Grandiflora*, called also *Platycodes Grandiflora* and *Wahlenbergia Grandiflora*. In Europe, it is greatly esteemed, but is said to be very scarce, from the difficulty of propagating it, as it rarely ripens seeds there, and its fleshy roots bleed so profusely when divided, that they commonly die. Here, however, it ripens seeds freely, and is certainly destined to be a favorite border flower. Its foliage is compact, and it has always a neat, clean and healthy appearance. It grows about two feet in height, and, in the blooming season—June and July—hangs out a profusion of very large bells, of a deep purplish blue in one variety, and, in the other, of a pure white. There is also a “crowned” or semi-double variety. The buds are peculiar, and almost as beautiful as the flower, being shaped like balloons. We have never known a single plant of this species to suffer from a New England winter.

The above, we think, are the best of this very beautiful family. There is a host of others, including the small Alpine Campanulas—gems in their way, but which require the winter protection of their native snows, and several fine annuals, among which *Campanula Loretii* and *Campanula speciosa* will deserve to be mentioned.

INSIDE GRAPE BORDERS.

BY J. S. HOUGHTON, PHILADELPHIA.

In the culture of foreign grapes, under glass, it has been thought that borders entirely inside the house promised advantages over outside borders, or borders partly outside, which rendered such borders worthy of trial, especially in the case of late grapes. Inside borders are, of course, entirely protected against the influence of storms at all times, and the plants may be started or checked at will. If late grapes could be successfully grown in them, the fruit might be kept for many weeks on the vines after the natural period of ripening, without danger of being injured by the autumnal rains, and the crop would then be quite as valuable as early forced grapes. Very extensive and costly experiments having been made with inside borders in the neighborhood of Philadelphia, I have thought it might be useful to record the result of these trials, for the benefit of grape-growers generally.

The plain fact, then, is, so far as I have seen, that the inside border here is a lamentable and singular failure.

Reasoning from all that we know of the conditions necessary for the growth of the vine, and from its success in pots, no one could anticipate such complete and uniform failure as has attended its culture here in inside borders. The vine may be grown with a great show of success for one or two years in such borders, by the aid of plenty of water and a high temperature; but as soon as they begin to fruit, they decline and die most mysteriously. In five or six large grape-houses within my knowledge, this has been the certain result. These houses were built by Thomas Drake, Lewis Lwes, and Peter Keyser, Esqrs., of Germantown, William Bright, and myself.

In all these houses the floor under the borders was made of solid concrete, or bricks, impervious to water, and in several instances the borders were separated from

the side walls by air chambers. In some of them air was conducted under the borders by flues, and two or three of them were entirely separated from the floor by four-inch brick work, with the idea of giving them some bottom heat. The suspended and aerated borders proving failures, the air conductors were in several instances removed from the bottom of the pits, and the borders were placed directly upon the concrete (good drainage being provided), but with no better success. The most ample provision was made for watering the borders, by means of large rain-water tanks, force pumps, evaporating troughs, and concrete paths kept constantly wet in hot weather.

In borders of good size, the trouble and expense of watering inside borders is not the chief objection. The watering is a formidable job, even with the aid of a large tank and force pump, but this could be endured if the borders would answer the purpose. The question of watering, however, is a very perplexing one. How to water, when to water, how much water should be used, and of what temperature—these are questions not yet satisfactorily answered, although we have tried the extra wet method, the partially dry method, water at 55°, and water at all temperatures up to 140°. But nothing that can be done by the most skillful will make the vines grow in such borders after the second or third year, especially after fruiting. They appear to sicken and die, and refuse to be comforted or relieved by any appliances of water or manures that have yet been tried. The roots, in almost all instances, become black and cankered, and no new or healthy fibres can be discovered.

This disease of the roots is not occasioned, in all instances, by over-rich borders, or by over-manuring, for some of our experimenters have gone to the extreme in mak-

ing poor borders (for late grapes of strong growth), composed of rotten rock, sand, plain loam, lime rubbish, &c., with only a little wood ashes and pure bone dust. But no kind or quality of border appears to answer when entirely inside the house, and separated from the earth by a concrete bottom.

Now, what is the cause of this general failure of inside borders? The vine will thrive for many years, if not over-cropped, in a common pot; then why not in an inside border, which is in fact only a large pot? I have contended for six years that an inside border *must* answer, but I am compelled to give it up now. I have tried the inside border in all shapes, and with the most skillful management, but it will not do. It looks reasonable that a vine should do better with its roots all inside the house, perfectly under control, than with part of the roots outside, exposed to very different degrees of temperature, moisture, &c. But the facts condemn the reasoning.

The causes of this general failure of inside borders I cannot understand. The effect of constant watering which such borders require may be injurious. It may make the borders "sour," as gardeners say. I have also thought that separating the borders from the earth by means of concrete, prevented the soil from receiving some natural moisture by capillary attraction; and perhaps, also, some magnetic or electric influence from the body of the earth which may be necessary to the life of the vine. The size of the borders has evidently no influence in producing the failures, as they are never filled with roots, and therefore are not exhausted.

I have been told that inside borders have been much employed about New York city, but with what results I have not learned. I should be much pleased to see reports of the working of such borders there or elsewhere.—*Hovey's Magazine, February.*

MATERIALS FOR FRAME OF ROOF AND SIDES OF GREEN-HOUSES.

As to whether iron or wood is most economical and best for flowers and vines, provided the rafters are made light, we would unhesitatingly prefer wood, as preferable in both respects. In a wide house, and where lightness is an object, we should prefer the necessary pillars, and even small rafters, being of iron; but as a general principle, for everything connected with the roofs of plant-houses and forcing-houses, we prefer wood to iron. True, some of the finest productions in the country are grown under iron-framed houses, but that does not prove iron to be the best material. Its liability to rust, and, therefore, the need of painting oftener, and consequent extra expense, and its heat-conducting properties, which cause it to be so hot in summer, and so cold in winter, occasioning often additional expense for fuel and glass, crackage and breakage, ought to

be thought over by every man putting up iron houses. We know that when kept well painted these evils are lessened, but not removed. And then, suppose you cannot, or do not choose to paint the interior of your house often, the drip from unpainted wood will do no harm to your plants, but from unpainted rusted iron it leaves its scathing mark wherever it falls. A number of years ago we were consulted as to building a conservatory. The owner had set his mind upon iron, as more lasting, &c.; we urged all these matters in order to have wood, but when we could not positively state that the expense of the iron would exceed that of wood, in the article of fuel alone, £20 per annum, it was decided to have iron, and there it is incessantly getting rusty on the roof, and the dripping spotting every leathery leaf on which it falls, it being scarcely possible to keep such plants as

Camellias in a healthy state beneath it. Then think, too, of the bother of ever and anon emptying houses to get the inside painted, which you must do often, in the case of iron, if it is to be kept from rusting. A wooden roof, when well done, does not require painting inside so often in a lifetime, if frequently and properly washed. Then, again, as to the expansion of the metal, and the breakage of glass in consequence; we know that much depends on the glazing, giving the glass ease enough, but in a house well painted the previous summer, and so far neutralizing its conducting properties, we

have gone out on a cold, frosty night, when there was just enough of heat to keep the temperature a little above freezing within, and have heard the panes crack and chip in dismal chorus, when those under similar circumstances on a wood roof never made so much as a chip. In such houses, where no heat was applied, the matter was even worse, though wood roofs wholly escaped, where there were no large laps in the glass. Good, sound *deal*, say we, for all dimensions and kinds of glass roofing.—*Manuals for the Many.—Greenhouses.*

FORCING STRAWBERRIES.

BY GEORGE CRUICKSHANKS, ST. JOHNSBURY, VERMONT.

In detailing my method of forcing the strawberry, I have nothing new to offer; still, as some of your amateur readers may wish to practice this mode of culture, I may be excused if I add nothing to the knowledge of the practical gardener.

Plants for forcing are usually obtained from runners from old plants. The earlier in the season these can be procured, the better; and it is also important that they should be taken from none but vigorous plants in the open ground, preferring a young plantation to an old one, as the former generally produces the most vigorous runners. As soon as the runners have pushed one joint, have ready a number of 3-inch pots, filled with rich, light soil.— Plunge the pots to the rims in the ground near the old plants, so that the joint of the runner may come over the centre of each, and place a small stone upon them, to keep the plant from being displaced until rooted.

Unless there is a scarcity of runners, take only one plant from each, thus securing all the strength to the one in the pot. As soon as the small pots are well filled with roots, the plants should be shifted into their (6-inch) fruiting pots. In doing this, use the following soil: Two parts good turfy loam;

one part old hot-bed manure. Place one crock in each pot, and cover the bottom with the coarsest of the compost. Fill the pot with the finer material, leaving room enough at the top to hold water. The plants should then be placed in the shade for a few days, until they recover from the repotting, and then plunged in some open airy situation, where they can have the full benefit of the sunlight. A vigorous growth at this season will ensure a future fine crop of fruit.

As cold weather approaches, the pots should be moved into a frame, or house, and kept from freezing—some place where they will grow slowly all winter, until required for forcing.

About the 1st of February, I place the plants in a span roofed orchard-house, on the west side, near the glass.

The forcing is commenced with a night temperature of 40° to 45° , syringing every pleasant day, until the fruit begins to color; even while in flower, use the syringe freely, which will cause the berries to set better. When the fruit begins to ripen, the temperature should be raised from 50° to 55° , giving all the air possible in fine weather. By

following this process, I this year had ripe fruit March 28.

The sort cultivated was Triomphe de Gand. The photograph sent you was taken, May 5, of a plant in fruit, on which were fifty-three berries, eight of them fully ripe, and some of them measuring $1\frac{1}{2}$ inches in diameter. This was one of one hundred pots, many of which had larger fruit.

In order to be successful in forcing the strawberry, it is important that the following conditions be complied with:

First—Propagate from strong, vigorous plants in the open ground.

Second—Give all the light and sun possible, after being placed in the fruiting pots.

Third—Place the plants where they will not freeze, but be kept growing moderately until they are removed to the forcing-house.

Fourth—When introduced into the forcing-house, the night temperature should not at the commencement, rise above 40° or 45° , gradually increasing to 55° , as the fruit ripens. The day temperature, by sun heat, may rise to 75° or 80° , giving an abundance of ventilation.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. WOODWARD, 37 Park Row, New York.

HINTS FOR AMATEURS AND OTHERS.—
BY AQELLULUS.—A good many are disappointment, when they open the boxes or packages of plants, they have ordered from nurserymen. I do not now mean disappointed on account of the nurseryman's not having sent what was ordered, or his having sent, what is worthless. The disappointment I refer to, is that in finding the plants in a bad state, viz., dry, branches broken, &c., the fault is sometimes in the nurserymen—they don't pack well enough, sometimes with the expressmen and the U. S. Mail carriers, they forget to "handle with care;" sometimes both are faultless, and the damage is caused by the far distance the plants have to be sent.

Disappointment is an evil, and the hints I offer will, in many cases, remedy the evil.

Your strawberries you find "pretty dry;" don't despair! don't throw them away; don't plant them immediately, but take them to a shady place, and plunge them in water. Let them lie a good while, and you will soon see them all, or most of them fresh; then you may plant them.

This will apply also to other plants, roses, geraniums, &c., &c., but some plants will require more time to lie in water. You must then wait a little longer.

I once received from a friend, living at a great distance, a very rare plant. The friend did not think of packing very carefully. He put a little earth around the roots, and wrapped it in paper, and mailed it. Well, when he packed it, the earth was wet enough. But the mail! When I opened the package, I found a good deal of dust and a few black things, that seemed to have been plants at a former time. I did not despair; I got a tumbler of water, and put the whole mass therein. The next day I saw by means of a microscope, something green, but very small. I waited a while and then planted, giving plenty of water.

I have just read, in a horticultural paper of the old world of two cases, which, I hope, your readers will find very interesting. They are narrated by a highly educated gardener. In a part of his garden where

—in the month of April—roses had been planted, he found, after two months, one plant that had been forgotten, to be planted out, and therefore was quite dry. He put it in water, in a shady place. Six week's having elapsed, he found new white roots and green sprouts.

In the month of July, the crown of a high-growing Remontant Rose was broken off by the wind. It was, when found, quite dry, having been exposed to the sun and wind during six weeks. He put the crown (which had had thirty to forty flowers) in water. After three weeks he found life, whereupon he cut it in pieces, both the old and the young wood, and planted them in an old hot-bed. Most all of them grew.

SKILFUL GARDENERS.—We hear frequent complaints from correspondents relative to the blundering and unskillfulness of their so-called gardeners. We say *so-called* gardeners, because we know there are a great many really intelligent men in the class of gardeners who deny these pretenders as much as we can. As a class, we do not believe there are a greater proportion of pretenders among gardeners than among lawyers or doctors, &c.; and we do know that there is in gardening a constant incentive to attain more and more knowledge, by him who has studied even to the point of a passable cultivator. As the gardener rises in knowledge and position, horticultural science multiplies its inventions, and demands from him more and more study and observation. Changes and improvements constantly press downward upon the gardener wanting in a love of knowledge, while they assist and heave upward the student. That there are too many unskilled men who pass themselves off upon the uninstructed amateurs we acknowledge; but, as the amateurs become more and more conversant themselves, these pretenders will be reduced in numbers. We must not decry the profession, for it is a noble one; but we, and all true gardeners, must disown those all and every unskilled pretender, until they

assume their proper places, and seek, by study and practice, to acquire a knowledge fitting them to enjoy in reality their present assumption.

WE HEAR frequent complaints of the exorbitant prices demanded for new varieties of fruits and flowers, as they appear in market. Probably, in some instances, these prices are excessive; but it must be considered that the cultivator who brings forward these new plants has spent years, and much care and labor in producing them. If they possess merit, it is only fair that he should receive some remuneration for the time and labor expended. This must be done in two or three seasons, for then they will be in the hands of other propagators, who will divide with him the profits, and diminish the amount of his sales, and bring down his prices. There are many persons who cannot afford to pay these high prices. In a few seasons, however, they will be reduced so as to come within the reach of all who desire to possess them.

RHODODENDRON beds should now have a mulch of leaf-mold, chopped straw, the refuse fine chips or dirt of a woodyard, or its equivalent in vegetable matter, placed all through and over the bed to a depth of three to four inches. Remember that, although some of the varieties are found growing wild on mountains, and in clefts of rocks, &c., yet all such positions, on a close examination, will be found ever moist and cool for the roots, hence their cultivation in our gardens should be measurably to the same end, and no better way do we know of than mulching with vegetable debris.—Some writers have urged the use of animal manures, well rotted, around rhododendrons and other evergreens. We have used it; and while it, at the time, appears to give additional vigor and rapid growth, the result, finally, has been to give to the plant a more immature habit, and less capability to withstand the extremes of temperature.

CUCUMBERS may be planted any time before the 10th of this month, July, and produce abundance for pickling. The white spine is the best variety we have grown for such use.

ALL HERBS should be cut from time to time, just as they are coming into bloom. Spread them out to dry in a shaded place, and as soon as dry pack them away in paper bags.

STRAWBERRY beds, as soon as they have done fruiting, should be thoroughly weed out, and the present paths or spaces deeply spaded. If the plants are kept in hills, then work the ground all among them.

THE bearing stems of all Raspberries, except the ever bearing kinds, should be at once cut away as soon as they have done fruiting. Blackberry plantations are also much easier handled by cutting the bearing canes away immediately after they are done fruiting.

RASPBERRIES and BLACKBERRIES are among the fruits of this month. We will thank our friends for notes thereon, forwarded as soon as made.

CHERRY, plum, and pear trees may be budded this month. Much, however, will depend on the stock, as well as the season. If the weather is wet and cool, and the stocks are growing vigorously, it may be as well to wait awhile. If the weather is dry, and stocks are about closing their growth, the sooner the bud is inserted the better. When the Mahaleb Cherry is used as a stock for the cherry, it may, perhaps, be as well to omit budding until early in September; but if the Morello is used, now is the time to bud.

With the pear, if the quince is to be the stock, budding may be omitted a month; but if the pear stock is used, the last of this; or first of next month will be late enough.

"PRUNING TASKS TO LET THE SUN IN."

—A few days since, happening through a friend's young orchard of apple trees, we found them all pruned, with the heads, or leaders, mostly cut out, and the bare branches and centre of the tree fully exposed to the full blaze of the sun. We asked the why, and our answer was, "It was done to let the sun in." We said nothing, but thought to ourselves that, in this clear sunny clime, where shade is essential to vegetable life at mid-day, our friend must have been conversing with some old country gardener, whose practice had been in a clime of moisture, and where to obtain sun, not shade, was a part of his routine.—

As a rule, more injury than good is done by this severe pruning. Cut away all crossing branches or twigs; shorten in all that incline to grow too strong, and throw the tree out of shape; cut away some few little weak shoots; and then throw away your knife, rather than mutilate the tree by cutting its limbs, and causing it to try for its life by sending up watersprouts.

DAHLIAS require care this month. If you want the best flowers, tie the rising plants to a stake, removing all but a single stem; and if they show flower ere the weather becomes cool, remove the bud. If you want a profusion of blooms, rather than particular forms, then peg down all the branches, and head back the leader, thus forming a mass, which, if carefully attended, soon becomes very effective. The best manure or stimulant to growth that we have ever used is soap suds water, and chamber lye mixed, four of the former to one of the latter.

CARNATIONS AND PICOTEE PINKS should now be layered. Bend the branch down, make the incision, cut on the upper, instead of the under side, peg it carefully, cover an inch with sharp sandy loam, then mulch with some neat material that will not be blown aside by the first wind.

HOLLYHOCKS should be firmly secured to stakes, well driven into the ground.

CREEPING PLANTS, such as honeysuckles, wistarias, &c., require to be occasionally gone over at this season—trained, tied, and an occasional shoot nipped in, to keep them neat, and give strength to the remainder.

ICE WATER.—Some years since, we remember, a statement, to the effect that a lump of ice—say ten pounds—placed in a well, will render it delightfully cool, and far more pleasant than water from a pitcher of ice. The ice has to be renewed once in about ten days.

TOMATOES may be trained on a wall, or board fence, with little trouble, and give in return an abundant crop of fruit. In the garden, a low lattice rack—say two feet high, and the same wide—we have found a neat and profitable way of growing them.

DORMANT TREE.—Record is made of a tree planted in the fall of 1838, which remained dormant until June, 1840, when it shot out, and made fine growths. We have frequently had trees remain dormant until July or August of the same year of planting, and once a peach tree pushed no bud until the 3d of September; but this is the only instance we know recorded where a tree has retained vitality in a dormant state during two winters and one summer.

How far long pruning and wide planting may be profitable we imagine is yet an unproved item; but this looks to us as much an extreme as the practice of three by three or four is the other way.

SALT FOR MILDEW ON THE GRAPE.—Looking over some old journals, we came across a statement of the use of salt as a preventive of mildew on out-door and vine yard grapes. The practice was a solution of salt in water, *just sufficient to be perceptible to the taste*, and syringing the vines two or more times with it. We would like to hear of its trial and the results on some such variety as the Yeddo, or other mildew-determined sort.

THIS AND THAT.—The other day we were reading the transactions of the Eastern Penn. Fruit Grower's Society, at their January, 1866, meeting, where we found Mr. Crucknell said "pears worked on quince stocks could not be depended on to live longer than about twelve years. Mr. Meehan said the object of dwarf trees was to obtain fruit earlier than when on standards, and that it was never expected the trees would live to a great age." Now, this may be all correct, but we have ourself pear trees worked on the quince that we planted out from the nursery in 1847, and they are now vigorous and healthy. We have frequently visited gardens where pears on quince roots were grown, among others, that of Mr. Wilder, Boston, and have found trees varying from twenty to forty years and more old, and in good vigorous bearing condition. Our belief is, that with judicious care in pruning and culture, pears worked on quince will continue good one hundred or more years.

COPING FOR GRAPES.—The plan of protecting grapes from dew and rains, and thereby prevent rot, we believe was first tried by Mr. J. Van Buren, of Georgia, in 1852. By some the practice is claimed as a successful and valuable one, fully repaying in one season the cost of erecting; others say it is of no value.

SIXTEEN AND A HALF FEET APART.—At the last winter meeting of the New York State Agricultural Society, Mr. Lay, of Greece, Monroe County, reported his vineyard as being planted sixteen and a half feet apart, and trellised eight feet high. He claimed for this distance immunity from diseases and permanency of vineyard.

TRADITION curiously hath it, that the tree from which Zaccheus saw our Saviour whilst on his way to Jerusalem was the *acer pseudo platanus*, or English sycamore.

ADVICE GRATIS.—If you are about building and improving a new place, consult your architect in the design and character of your house, and call your architect and your landscape gardener together, that they may consult as to the position for placing the house in the grounds.

The architect may be a landscape gardener, but, as a rule, the study of architecture has swallowed or detracted from that of tree and plant, hence it is found, that while as an architect he may design an elegant edifice, it may not be in the best style for the surrounding country. He may also know when the position on the grounds will show his house to the best advantage; but it may be the worst position for the landscape gardener to arrange his grounds to produce the best effect. If about to build, then call together the aid of both architect and landscapeist—consult them together, for money expended before making a move, and for such purpose, proves the best part of an investment in building and planting.

CALCAREOUS SOIL FOR DRY WINES.—In 1834, a little work was published in London, written by James Busby, and giving an account of the vineyards of Spain and France. He gives an account of the "Hermitage" vines, and mode of making wine, &c.

In speaking of soils, and the wines produced therefrom he says: "I met with no vineyard producing dry wines of reputation, which was not more or less calcareous."

In the same work the system of renewal of the vine by layering, as recently advised by Doctor Schroeder, is described, and there called "provignage."

PROGRESS OF VINEYARDS.—In 1840, the lamented A. J. Downing, first editor of the *Horticulturist*, estimated the vineyards of the States at 3,000 acres. May we not now estimate them at 100,000 acres? What say our grape men?

HUSMANN'S "GRAPES AND WINE."—Readers of the *Horticulturist* will remember Mr. Husmann, of Missouri, as the author of frequent articles on grape culture, in that journal, for a year or two past, remarkable for sensible suggestions and practical information. Mr. Husmann, who is a resident of Hermann and, we believe, one of the oldest wine-growers in the United States, has written a book on the Culture of Grapes and the Making of Wine, which has just been published by the Woodwards, 37 Park Row, this city.

Mr. Husmann's book is very clear, plain and practical. He gives full and explicit directions for the planting, culture and general management of a vineyard; discusses the merits of the different varieties of grapes now used here; and finally gives the most detailed and practical directions for wine-making. At the close of the book are a number of estimates or statements of the cost of planting a vineyard with different varieties of grapes. We have no doubt these tables will have practical value to any one who will bear in mind that Mr. Husmann writes in Missouri, where wood is cheap, and where probably some of the required operations can be more cheaply performed than in the eastern states. Mr. Husmann writes in the spirit of a real lover of the vine, and his book contains a considerable mass of information which will interest the intelligent general reader, as well as those who think of trying the culture of the grape.

Ten years ago, Mr. Husmann tells us, there were not more than three or four thousand acres planted with vines in the United States; now he believes there are not less than two millions of acres so planted. Formerly American wine went a begging at one dollar per gallon; now it sells, as fast as made, for from two to six dollars per gallon. In 1854 not more than two thousand vines were grown and sold in Hermann; last season two millions of plants were grown and sold in that place alone, and the demand was not nearly supplied. The last and perhaps the most important sign of the rapid increase of vine culture in

this country is Mr. Husmann's book itself, which concerns itself with the grape chiefly as planted for wine, and not as a market fruit.

His objects are "to make grape-growing as easy as possible," and "to give such simple instructions about wine-making and its management as will enable any one to make a good saleable and drinkable wine, better than nine-tenths of the foreign wines which now sell for two or three dollars per bottle." He has accomplished his purpose very well indeed.—*Evening Post.*

INDIANA STATE BOARD OF AGRICULTURE.—*Secretary's Office, Indianapolis, Jan. 6, 1866.*—The State Board of Agriculture, at its January meeting 1866, adopted the following preamble and resolutions:

Whereas, it is a notorious fact that the present Commissioner of Agriculture has totally failed to satisfy the just public expectation in the administration of the Agricultural Bureau; therefore,

Resolved, That in the opinion of this Board, the interests which the Bureau of Agriculture was intended to promote, would be materially benefited by the removal of Isaac Newton, and the appointment of some competent, educated and practical Agriculturist in his stead.

Resolved, That the Secretary of this board be, and he is hereby directed to furnish the President of the United States and the Secretary of the Interior, with copies of these resolutions.

I certify the above preamble and resolutions to be a true copy, from the record of the proceedings of the Indiana State Board of Agriculture, made this 6th day of January, 1866.

MAJ. S. FISHER, *President.*

W. H. LOOMIS, *Secretary.*

INDIANAPOLIS, Jan. 5, 1866.

THE INDIANA STATE POMOLOGICAL SOCIETY, at its January meeting, 1866, unanimously adopted the following:

Whereas, The results of the labors of Isaac Newton, the present head of the

Agricultural Bureau at Washington, have fallen short of the reasonable expectations of those whose interests he represents;

Resolved, That the views of this Society be presented to the President of the United States, through our delegation in Congress, with the respectful request that a man better fitted be appointed for the place.

I. D. G. NELSON, *President.*

GEO. M. BEELER, *Secretary.*

From time to time, since the present Chief of the Agricultural Bureau has occupied his position, various agricultural journals throughout the country—as the *American Agriculturist*, *Rural New Yorker*, and other leading and influential papers, have given the public specimens of the learning and scholarship displayed by the Chief, some of which we have copied for the benefit of our readers. It is now our pleasure—and our mortification, also—to present to our readers one or two examples of his ability and qualifications for the distinguished position he occupies, which have not before been made public. We have it from a source eminently to be relied upon, that the Commissioner was engaged in writing a statement concerning sugar cane seed, and being called away from his desk for a few moments, one of the clerks made a glance at his unfinished manuscript, and found he had written it *Shuger cain seed!* And we have ourselves seen a communication, bearing the autograph of Mr. Newton, in which are declarations exhibiting ignorance upon common farm matters which, if made by a farmer boy of fifteen, would be inexcusable! And yet, such a man—one who has not the remotest conception of the duties of his office, and whose ignorance and incompetency would have caused his removal long ago, had it not been for personal friends in high places who keep him in office—is allowed to disgrace the important position which should be filled by a man of learning and good judgment, one of broad and enlightened views, and of some executive ability.

The farmers, it is true, have no representative at Washington to look out for their interests—but thanks to an independent and honest agricultural press, they are beginning to get their eyes opened to their true interests in this matter. Through the press and the State Agricultural organizations, President Johnson shall know that the farmers of the United States demand the removal of Isaac Newton from a position he has not the ability to fill. The Ohio, Indiana, and Illinois Agricultural and Horticultural Societies have passed strong resolutions demanding this. The Maine Board of Agriculture—now in session in this city—will, probably, do likewise, and their action will be followed up by New York, Wisconsin, and Michigan, by the Massachusetts Board of Agriculture, and the New England Agricultural Society. We will compel President Johnson to notice us and heed our complaints.—*Maine Farmer.*

NEW BRUNSWICK, May 10, 1866.

Whereas, the New Jersey State Agricultural Society have learned that the State Board of Agriculture of the State of Massachusetts, at a meeting held on the 15th day of February last, had taken certain action as to the office of Commissioner of Agriculture in the Bureau at Washington, and by resolution passed at such meeting, earnestly requested the President of the United States to appoint some one to that office who, from his practical and scientific attainments, sound judgment and discretion, may commend himself to the respect and confidence of the intelligent farmers of the country, and wisely promote the agricultural interests of the United States. And, whereas, this Society has also learned that this action has been endorsed and seconded by many other States of this Union. Therefore, be it Resolved, that the New Jersey State Agricultural Society do most cordially approve of the action of the State Board of Massachusetts in the premises, and earnestly and respectfully command

this matter to the attention of the President of the United States.

Resolved, That the Secretary of this Society be directed to transmit a copy of these resolutions to the President of the United States, and to the Secretary of the Interior.

A true copy.

Wm. M. FORD, Recording Secretary.

MR. EDITOR:

I have never yet seen an article giving instruction as to the best method of packing grapes for market in any of our agricultural or horticultural papers or magazines. Last Fall I lost two hundred pounds of Delaware grapes from bad packing, and am now indebted to Mr. Josiah Carpenter for what knowledge I have on the subject,

Thinking that among the many members of the HORTICULTURIST family there may be some one who may have a crop of grapes to sell this fall, and who may be as ignorant of the best way of packing them as I was myself; and if there is such a one, then, Mr. Editor, this article will be worth to him what some of the articles in the HORTICULTURIST are worth to all its subscribers —more than the cost of the magazine for a year.

First, then, a box, twelve inches long by nine wide, and three and a half or four inches deep, if carefully packed, will hold ten pounds, and is the best size for market.

Now the packing: first, select the largest and most compact clusters; take off the bottom of box and nail on the top; lay tissue, or white printing paper, to cover the inside of top; then pack in the selected clusters, turning the stems inward, taking care to get them as compact as possible, without crushing the berries. After the top is thus carefully packed, fill the box a little more than full, using the small to fill all spaces between the larger clusters; then press down carefully, using the bottom board, and nail it on. If they are well packed, there will be no movement of the grapes on shaking the box, and on opening from

the top, and removing the paper, the fruit will present a solid surface of berries, no stems to be seen. Grapes so packed are in the best possible condition to carry and to sell. If the fruit is intended to be sent any distance, then these boxes must be packed in crates holding nine boxes. The ends of the crates must be solid; the sides, bottom, and top formed of slats, two inches wide, and half inch thick; the spaces between slats about two inches in width.

What is most wanted by grape-growers who market their fruit, is a cheap box that can be given to the buyer of the fruit.—why cannot our box-makers offer us as cheap a box in proportion to size and strength, as they now make for strawberries, &c.?

Surely there would be a great demand for them, and it would constantly increase, as many who now make wine of their grapes would send them to market, could they get a box that they could afford to give away. As it is, the boxes cost from twenty-five to thirty cents each. They cannot all be collected by the commission merchants, and if they could be, they are stained, soiled, and are soon broken, so as to be useless.

Would not such a box be the best in which to send cherries and plums of extra quality to market?

Yours respectfully,
C. J. MAY, Warsaw, Illinois.

OFFICE OF SOUTH SHORE WINE CO.,
North East, Pa., April 3, 1866.

Messrs. EDITORS:

GENTLEMEN—I was quite amused at the remarks of your correspondent in the April number, regarding box or "basket layers" for immediate fruiting.

Early fruiting in vine or tree is very desirable, but to produce a good vineyard or orchard in much less time than is ordinarily required to bring vigorous trees taken from the nursery at four or five years of age, or well-grown hardy vines of one year's growth, into bearing, would, in my judgment, be a

slight innovation upon the laws of vegetable physiology.

Your correspondent is not the only one who has been sadly disappointed in their expectations of *very* early returns for considerable sums invested in basket layers.—Some of these disappointed amateurs are doubtless less inclined than your correspondent to publish their folly, or to admit that they have been made the victims of so simple a sell, and yet he doubtless discovers the true moral courage in his endeavors to save others from being so cruelly humbugged.

It certainly is your duty, Messrs. Editors, "as much as in you lies," to protect the uninformed and inexperienced undertakers in horticulture, and to save them from the devices of crafty speculators, since it is found that there are some such to be encountered, even in this sacred calling. Nor are editors of horticultural journals inclined to neglect this weighty obligation, as their readers can abundantly testify; and certainly this service has not been overlooked by the Editors of the *HORTICULTURIST*.

The writer says he "has suffered some."

Is any one curious to know just how much he has suffered? I think I can determine the sum, or very nearly. A good, strong, well-grown yearling plant can be grown for about ten cents; and as the cutting or bud, except of the "new and rare" sorts, can be obtained for about half a cent, such vines ought to sell for something less than twenty cents; and, as this is the true and most valuable vine for vineyard or garden, I am led to conclude that your correspondent is out of pocket about five dollars and eighty cents, besides express charges, which would range from one to four dollars, according to distance. So, then, I do not hesitate to affirm that this earnest seeker for "an early fruiting vine" should have had, or might have procured for the net cost of his "promising box," or "basket layer," from ten to fifty (according to the variety) better vines than the one he has been so patiently nursing.

From an experience of more than twenty years, during which time I have grown some millions of grape vines, one hundred thousand of which I have fruited in my own vineyards, I am fully able to demonstrate that a well-grown one-year-old vine, produced from a single bud in *open culture* (open ground) is the best and most valuable plant that can be grown.

Wm. GRIFFITH, North East, Pa.

We have received from Wm. Griffith, Esq., of North East Penn., samples of six varieties of native vines, viz., Concord, Hartford Prolific, Diana, Delaware, Isabella, and Catawba, all grown from single eyes in the open ground. By some peculiar mode of his own, (which we hope he will divulge for the benefit of grape growers) Mr. Griffith is able to produce strong, well rooted vines of the Delaware from single eyes, planted at once in the open ground. We can commend the quality of the vines, which are planted in our own garden, and are making a most vigorous growth.

BLACK HAMBURGH GRAPES.—We are indebted to John Ellis, Esq., of Fox Meadow Garden, for a fine bunch of Hamburgs, the produce of vines that have been hard forced for eleven years. The color, flavor, and general appearance of the fruit leaves nothing to be desired.

HEYL'S PATENT BINDING TAGS.—This is a very desirable article for those who wish to bind their own magazines as they are received, and thus preserve them from loss or mutilation. A box of tags with punch and binding strings sent post paid for \$1.00 from this office.

DARBY'S PROPHYLACTIC FLUID.—We have used this article, and are well acquainted with the inventor and proprietors, and fully believe that it possesses all the qualities which are set forth in the advertisement, and which render it desirable that it should be in every family.

BOOKS, &c., RECEIVED.

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It delineates many designs of each of the above in great variety, from the simplest to the most elaborate: new in their character, and such as avoid the many defects which mar much of our modern architecture. These designs are accompanied by Working Drawings, made on so large a scale as to render their construction easy to any workman, and so distinct that they can be readily executed without any loss as to their effect. These features are again given in numerous elevations showing their effect when combined in buildings of various classes required in the country. (See our book list.)

ELEMENTS OF INTELLECTUAL PHILOSOPHY.
By Rev. Joseph Alden, D. D., LL. D., late President of Jefferson College, New Jersey. D. Appleton & Co., 1866.

Unlike many text books in Mental Philosophy, this book is not a mere compilation of the views of previous writers, but is thoroughly original in plan and purpose, and might be properly called an application of common sense to philosophy. It is designed to train the student to habits of clear and accurate thinking, and though it is not merely for use in schools and colleges, it can be used to advantage by those who have not passed through a course of college instruction. The author has equipped himself with great clearness and simplicity, and has produced an excellent system of mental gymnastics.

NOTICE TO THE TRADE!

DUTCH BULBOUS ROOTS!

The undersigned has received this season's price lists of his several houses in Holland which can be had on application. Parties wishing to import their own selection, are requested to send their orders before 1st July, if possible.

C. C. ABEL, Commission Merchant,

July.

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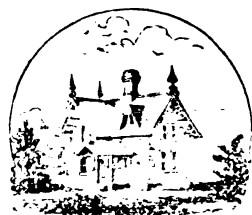
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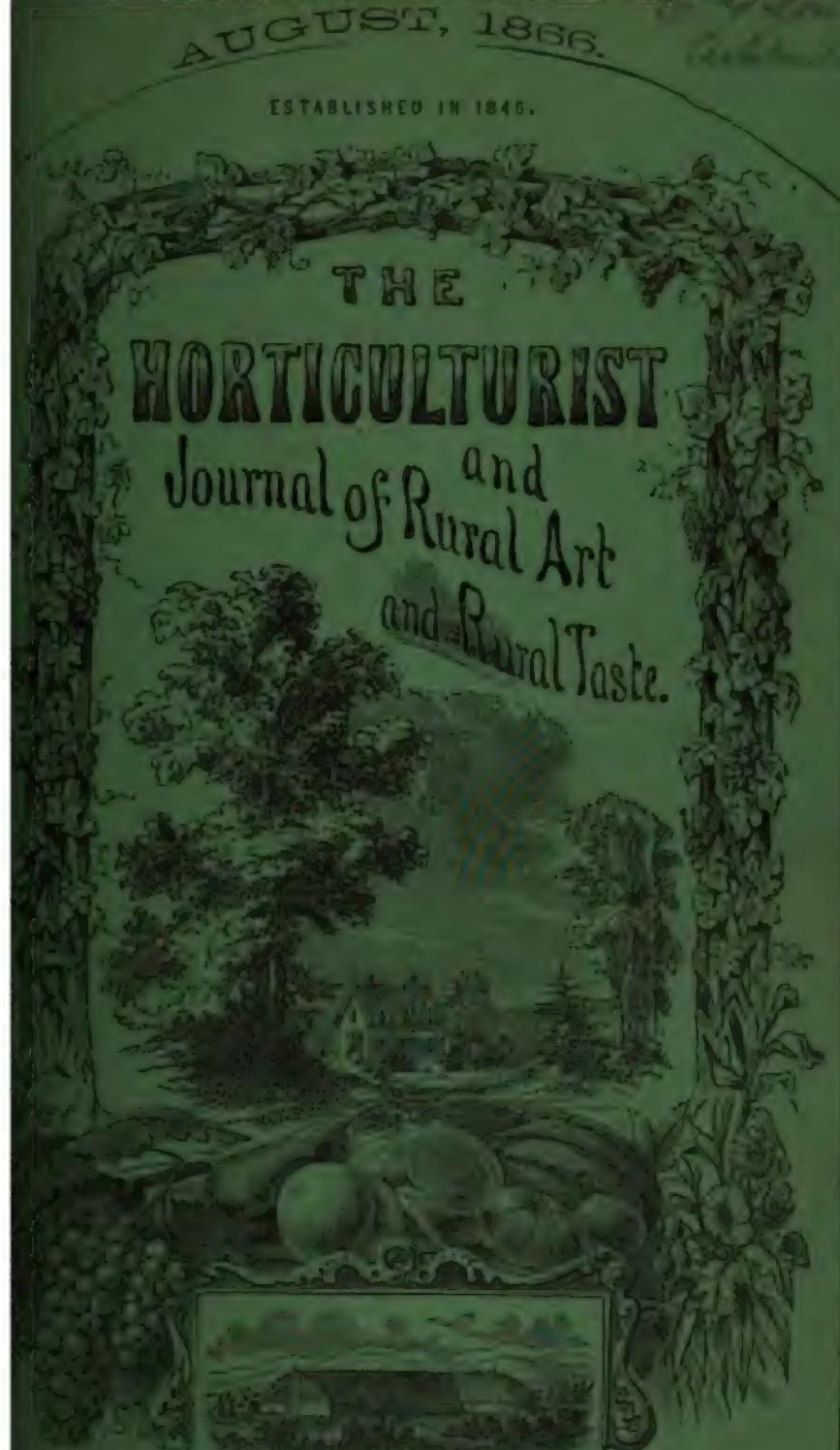
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AUGUST, 1866.

ESTABLISHED IN 1845.

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VOL. 21—No. 8.—WHOLE NO. 242

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VOL. XXI.....AUGUST, 1866.....NO. CCXLII.

VARIETIES OF STRAWBERRIES.

BY F. R. ELLIOTT, CLEVELAND, OHIO.

WITH August again comes the forming of new strawberry beds. To select from the many sorts now offered and catalogued as "excellent," "very superior," &c., is a task not easily performed.

To aid the difficulty of making such selection, we have, during the just passed strawberry season, made almost daily visits to our own and our friends' strawberry rounds, treating ourselves to a delicate, high flavored Ladies' Finger, and anon biting into the Agriculturist, however irregular in form. We have feasted on Jucunda, and, both early in the season and at its very close, have found well-ripened Down's Prolific to relish most satisfactorily on the palate. With Triomphe de Gand we have imbibed a peculiar aroma, and with Green Prolific, obtained when fully ripe, the nearest to the perfect in quality of strawberry.

We have not omitted our old and valued friend Hovey; nor could we, if so disposed, have failed to notice Wilson; but, while

we have partaken of the good fruit of dozens of varieties, our limits will not admit of any detailed descriptions. Even a record of the names of *all* the kinds would occupy too much room; and, therefore, while we have examined many, we only write out our notes of those most prominent at this present time.

If our notes fail to make record of any sorts that our friends imagine most deserving of culture, we will thank them for an expression thereon.

In our examination, we have taken up two positions, for which, or on which the strawberry should be judged—the one for market purposes, and the other for private gardens or family use.

For market, we have regarded vigorous vines, firm, good-sized fruit, and habits of great productiveness, as the leading characteristics to be sought.

For family use, we have borne in mind quality and size, productiveness, and hardiness of vine in their order. Flavor and

quality as a market fruit, we have regarded as desirable, but secondary to the points we have named; while for family use, quality is a point that cannot be overlooked, even at a gain in productiveness.

The season is another matter of account, both to the market-grower and amateur, as the one longer supplies his pocket, and the other his table.

The old Early Scarlet, or Early Virginia, so long and so generally grown, while it has a fine-flavored fruit, is so small, and so much less productive than Ladies' Finger, or Downer's Prolific, or French's Seedling, that we unconsciously gave it the go by in our first, as well as our subsequent examinations, and for early ripening settled upon the three last named.

LADIES' FINGER, we find, ripens its fruit very early, bears abundantly, vines perfectly hardy, enduring even neglect, or rather what some call culture, that is, running together in a mass. We made outlines of this,

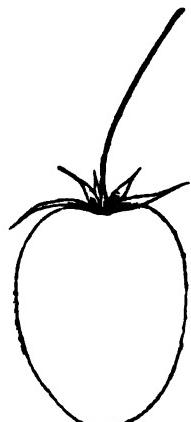


FIG. 90.—*Ladies Finger.*

as well as many others, more to retain in our mind their general form than to present a show picture.

This, as our readers will see, is a long, oval fruit; it is sometimes pointed; the stem is firmly inserted; the core is small, and partially hollow; the flesh fine, light pink; while outside, it is a deep, rich scar-

let, with light yellow, small, and deeply imbedded seeds. As an amateur or a market fruit, we consider it among the best.

DOWNER'S PROLIFIC we have fruited yearly for several years, and do not feel that we can do without it, although it is too soft for market purposes. It is a great bearer, carrying its fruit high and clear of the ground. It commences ripening among the very earliest, and holds it until the very last. In quality, unless fully ripe, it is too acid; but when fully ripe, it is delicious, and, with a little sugar, makes certainly as good, if not the best mingling of sugar and acid of any of the strawberry family. In form, it is very regular, and nearly round.

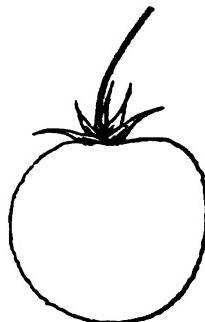


FIG. 91.—*Downer's Prolific.*

With this, as with all our illustrations, we give only an average sized fruit. The large fruit are generally figured by dealers in vines, while the small fruit no one cares to see figured.

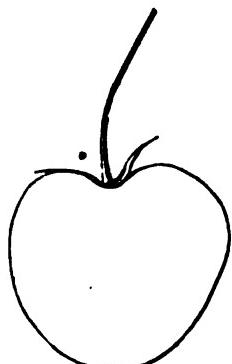
In color, Downer is a light clear scarlet; its flesh white; and, as before remarked, too soft when ripe, to bear carriage any distance, hence it is not desirable for the market-grower.

FRENCH'S SEEDLING.—This variety we saw but little of this year, our bed being in a very unfavorable position, but what we did see of it has led us to conclude that it has not been over-rated, and we should advise its planting as an early and profitable sort for market purposes.

JUCUNDA.—With this variety we have

been familiar now some four or five years, and have regarded it as one of the most productive of any foreign variety; but its vines are a little tender, and the winters, where they are unprotected, cause it to make but a poor show in Spring time. If in good soil however, it recovers rapidly, and produces almost equal to Green Prolific or Wilson's Albany. Its fruit is irregular, roundish in form, of a dark, rich,

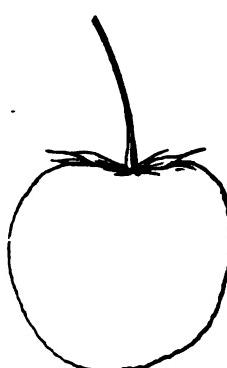
In form, they are roundish, of a rich glossy scarlet, with dark seeds, moderately imbedded. Perhaps it may not prove quite sufficiently firm for long carriage, but we should feel like trying it, were we planting. The trusses are strong, and well up out of the dirt.

FIG. 92.—*Jucunda.*

glossy scarlet, with light yellow and prominent seeds. Its flesh, firm, yellowish red, pinky at core; of good, not extra, high flavor; truss of medium height; stout foot-stalk; dark green, broad foliage. Altogether, it is a valuable sort for market gardening, or for amateur culture, provided the vines be sheltered during the winter by a light covering of straw, old pea or bean haulm, &c.

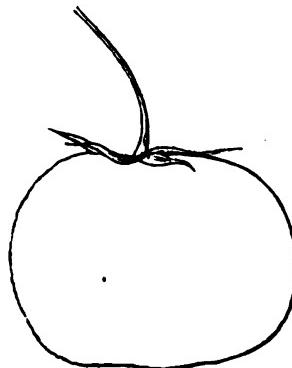
GREEN PROLIFIC.—This variety is comparatively new, and our examinations were made all on new beds, of last August's formation. We like it.

In real quality, when fully ripe, it is superior. Its mingling of acid and sugar is excellent. The vines appear as vigorous as Wilson's, and that is saying a great deal.—In productiveness, few varieties are its equals. In size of fruit, its average is above medium, while they are uniform, not a few large and the remainder quite small, as in some varieties.

FIG. 93.—*Green Prolific.*

It is not an early sort, coming in just about as Wilson's are half gone, and holding on late.

AGRICULTURIST.—This sort, originating at the same time, and by the same grower, as the one just named, has had so much more of puffing, that it is found ten times where

FIG. 94.—*Agriculturist.—1.*

the Green Prolific is once. Its vines are not as strong and vigorous as the Green Prolific; it is not as good a bearer; the fruit is quite irregular in form, many of them quite a cockscomb shape, while others

have a neck, and are long and pointed. It is a handsome scarlet, with long, pointed, light yellow seeds; flesh, moderately firm, a pleasant flavor—above mediocrity, but not really rich; desirable to the amateur,

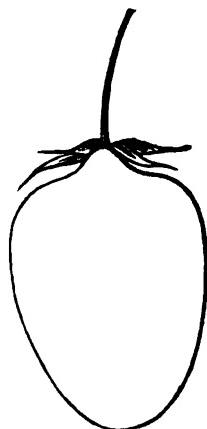


FIG. 95.—*Agriculturist.*—2.

yet, notwithstanding that and its acknowledged acidity, the public are yet willing to buy, and the grower pockets the money.

As an amateur sort, few are willing to grow it; but the public must have strawberries, and this is one easily grown, prolific to the complete satisfaction of everybody, and the public do, and will have it.

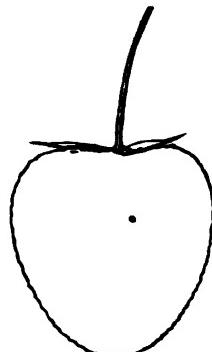


FIG. 96.—*Wilson's Albany.*

but not to the grower for marketing purposes. Its trusses bloom abundantly, but do not set well in all cases; and its foot-stalks are so low, that the fruit lies too much on the ground. In hills, and with extra culture, doubtless it will show well.

WILSON'S ALBANY, so well known, and so universally conceded to be one of the best, if not the best market strawberry in existence, that we are excusable for its introduction only on the ground that if good, no matter how common, it should not be omitted—forgotten it never will be. We remember the good man who originated this, and who, during his life, was rather unwilling to say much about it, because it had not the quality in richness, or rather soft delicacy of fruit which he had been educated to think requisite in a good strawberry. In vigor and hardihood of vine it has no superior, if an equal; in productivity, growers repeatedly say they can grow two quarts of this to one of almost any other old sort; and although it has one failing, viz., that of becoming of a dingy hue, after being picked four or five hours,

In form, it is very regular, nearly or quite conical; when gathered fresh, a bright, beautiful, rich, dark scarlet, that in a few hours changes to a dingy, dirty hue. All classes of soils and positions seem to suit it, in so far as growth of vine and productiveness are features; while its quality is undoubtedly best on strong clay loams, and poorest, or most acid, on sandy soils.

McAVOY'S SUPERIOR.—From our observation during this and last year, the variety

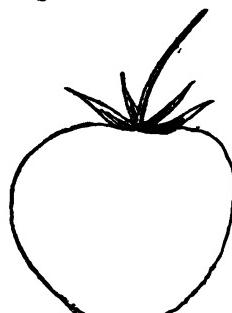


FIG. 97.—*McAvoy's Superior.*

sent out as Buffalo so closely resembles this variety, that we are disposed to think them

entical; if not so, they are so nearly like, that whoever has McAvoy's Superior does not want Buffalo. The Cincinnati Horticultural Society paid a \$100 premium for this variety as a superior one.

In quality, it has really no equal, if we except Burr's New Pine; but in productivity, unless the beds are renewed each and every year, and on good, strong, deep soil, fails. It is too soft, and too irregular in form, for market. Frequently it is a broken cockscomb form; but, as a general thing, it is irregular, pointed, round.

The vines are liable to kill out in winter, and should be covered with pea haulm, or some other mulching material.

HOVEY'S SEEDLING.—This is another of the old sorts, too well known for comment,

TRIOMPHE DE GAND.—This variety, with amateurs, can hardly be dispensed with, but market-growers, as a general thing, have not found it profitable.

It is firm; carries well; is of a peculiar flavor, pleasant to most people; of good size; glossy, pale scarlet; but even then, as a general market fruit, does not sell for more than two or three cents a quart extra over Wilson's, which can be produced at half the cost. Cultivated in hills, we have record of two or more cultivators who have made it a paying sort for market; but they had cheap labor, and sold at high prices; in other words, their markets were exceptions. In good, strong, clay loam soils, and well cultivated, it gives good fair crops, and so unlike most other sorts, that all amateurs should have it.

Fruit, of a bright, clear, glossy red, often almost white on one side; irregular in form; mainly cockscomb; sometimes round.

BURR'S NEW PINE is one of the highest flavored sorts ever produced, but its truth and purity is now rarely to be found. In most cases, we find Burr's Seedling grown for New Pine. The New Pine, when to be had *true*, is the amateur's berry.

BURR'S SEEDLING, as above remarked, is often grown as New Pine. It is a light red berry; of medium size; productive; hardy vine; not high enough flavored for an amateur's sort, and too pale in color for market.

PROLIFIC HAUTBOIS.—Of all the Hautbois, we think this preferable. Its peculiar musky aroma, when mingled with the scarlet sorts, give to the dish a character unattainable in any other manner.

METHVEN SCARLET.—This, and Trollop's Victoria, we have looked over this season, to see how much advance was made in the latter over that of the former. We acknowledge an advance, but do not think either desirable.

WILLEY, LONGWORTH'S PROLIFIC, AND JENNEY'S SEEDLING, are all sorts of value, and especially so for carrying purposes; but

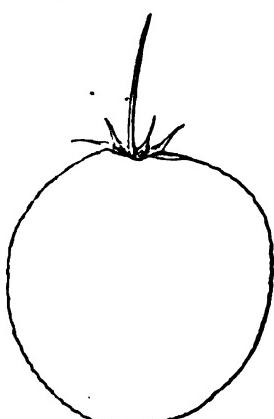


FIG. 98.—*Hovey's Seedling.*

it yet holding qualities that will yet keep a place among amateurs. If it had a little more of a productive habit, and a little more of flavor, it would continue to keep its place it has held for many years.

In size, it ranks among our largest; of handsome color; firm for transportation; and when grown on deep clay loams, and impregnated with some variety like Boston Blue, it produces a good moderate crop. In market, for price, it will command more than any other berry, although its quality is hardly second rate, being deficient in acidity as well as sugar.

as the Wilson produces most, they cannot come in for market-growing.

BROOKLYN SCARLET.—Don't set well. We can see nothing in it desirable at this stage of strawberry culture.

PROGRESS.—To us is no progress. Vines of only moderate size, and not productive.

CUTTER SEEDLING.—Very much like Burr's Seedling. Their day is past.

LENNIG'S WHITE, DEPTFORD WHITE, &c., are of little or no value. The best of this fancy class is Lennig's, and that requires high culture in hills, and good strong soil, to produce a dozen fruit to a vine.

LA CONSTANTE.—A delicious fruit, but vine too delicate.

COL. ELLSWORTH, EMMA, NERO, MONITOR, and some others, we have not seen sufficient of to speak in their praise. They must do better next year, or stand aside.

LA DELICIEUSE, like La Constante, too delicate in foliage, or vigor of vine.

RUSSELL'S PROLIFIC.—Last season this variety took a prominent lead, and this season we notice it has done so in some sections, while other localities have pronounced it of no value. Our belief is, that it requires strong soil, and to be renewed each

year. The fruit is, however, too soft for a market berry; and, as an amateur sort, there are a number better.

FILLMORE, as usual, gives some fine fruit, and so does Hooker, but comparison with other sorts above named, places them in a list to be left out, except by large amateur planters.

GOLDEN-SEEDED AND ROBINSON'S PERFECTION are two sorts unworthy planting.

AUSTIN SHAKER, on some grounds, has given fair crops of a large, firm, and good fruit; but, as a general thing, it is not productive.

In closing our notes, we will say one word about forming new beds:

First, make the ground as deep as plow or spade can do it; enrich it with old, well rotted manure; select your plants; cut off all the leaves but the youngest one; dip the roots in soft mud, or thick muddy water; if dry weather, give one good watering, say a quart to one plant; immediately after watering, draw over some dry soil, and, as a general thing, the plants will succeed.

They should be hoed in about one week or ten days after planting.

DESIGN IN RURAL ARCHITECTURE.—No. 16.

BY G. E. HARNEY, COLDSPRING, NEW YORK.

This design was built about two years ago, by Dr. P. C. Parker, of Coldspring, and is situated on a fine piece of ground, near and overlooking the village, and embracing beyond, fine views of the Hudson, West Point and the Newburgh Gap, and of the ranges of mountains above and below.

The house stands between the approach road and the river, consequently the entrance porch is on one front—that towards the road—the living apartments and veranda are on the opposite side, fronting the river; by this means greater privacy is given to those portions of the house usually occupied by the family.

The arrangement of the plan is as follows:

The front veranda, No. 17, opens by wide doors into a vestibule, No. 1, seven feet square; No. 2 is the hall containing the staircases, and No. 3 is a small room or recess opening by means of a French window upon the principal veranda which extends round the river side of the house. The hall and recess are separated from the main hall by Gothic arches with ornamental columns and moulded spandrels; No. 4 is the Doctor's business office, which has a separate entrance, for persons calling specially on him, seen at No. 5; No. 6 is a comfortable little library furnished with book cases and having an ornamental chimney-piece; it has two windows which give pleasant north

and west views; No. 7 is a parlor, about sixteen feet square, exclusive of the bay window which projects from its western side about five feet, and around which the veranda extends; No. 8 is the dining room fifteen feet by sixteen, and No. 9 is a small butler's pantry, fitted up with shelves and cupboards and opening into the kitchen, No. 11. The kitchen is in the Southern wing, and is furnished with sink and other kitchen conveniences; No. 10 is a scullery fitted up with cupboards and a sink, and supplied with hot and cold water; the dishes are washed here, and passed into the butler's pantry through a small opening left for that purpose in the wall between them, and on a level with the wide shelf of the pantry. A door from the kitchen opens out upon a private veranda, No. 13, which is entirely shut in by lattice work, and this is used in summer as a laundry or washing room; No. 14 is the outside stairway of stone, leading to the cellar; and No. 15 is a water closet, made in a hollow space between two walls, and ventilating through this space into a flue of the kitchen chimney, running along by the side of the kitchen flue. The warmth



FIG. 99.—*Perspective.—A Doctor's Residence.*

of the kitchen flue produces a current of air in the ventilating flue, and by this means the water closet is fully ventilated, and though quite near the house, is always cleanly and inoffensive. Private stairs from the kitchen lead to the chamber floor and to the cellar. The cellar has a laundry under the kitchen, a large store-room under the butler's pantry, and an open cellar under the rest of the house where are the brick cistern, the furnace, coal bins, wine closet, and other conveniences usually found in this portion of the house.

In the second story are two square chambers, with full ceilings over the parlor and

dining room; two rooms for servants, besides a bathing-room over the kitchen; and a stairway to an unfinished attic over the central portion of the house; a chamber over the library and a large linen room over the office; all these rooms are well lighted and well supplied with closets.

The house is built of wood, filled in with brick, and sided with narrow pine siding; the roofs throughout, including the window hoods are all covered with slate, put on in alternate bands of green and purple. The interior walls and ceilings are hard finished and the interior wood work is stained and oiled—three different shades being used for

the staining; dark umber, light umber, and annatto. The exterior is painted three dif-

ferent shades of oil paint, of browns and grays, and the doors are grained like oak and walnut. The rooms in the principal story are ten feet high, and those in the chambers are nine feet high.

This house was built in a very complete manner, and furnished throughout for about six thousand five hundred dollars. The work was all done by the day, and at a season when labor and building material were higher than they had ever been before, though much lower than they are at present.

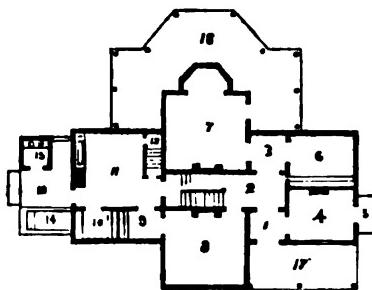


FIG. 100.—*Ground Plan.*

NORTON'S VIRGINIA GRAPE.

From Husmann's Grapes and Wine.

It was about this time (1848) that the attention of some of our grape growers was drawn towards a small, insignificant-looking grape, which had been obtained by Mr. Wiedersprecker from Mr. Heinrichs, who had brought it from Cincinnati; and, almost at the same time, by Dr. Kehr, who had brought it with him from Virginia.—The vine seemed a rough customer, and its fruit very insignificant when compared with the large bunch and berry of the Catawba, but we soon observed that it kept its foliage bright and green when that of the Catawba became sickly and dropped; and also, that no rot or mildew damaged the fruit, when that of the Catawba was nearly destroyed by it. A few tried to propagate it by cuttings, but generally failed to make it grow. They then resorted to grafting and layering, with much better success. After a few years, a few bottles of wine were made from it, and found to be very good. But at this time it almost received its death-blow by a very unfavorable letter from Mr. Longworth, who had been asked his opinion of it, and pronounced it worthless. Of course, with the majority, the fiat of Mr. Longworth, the father of American grape-culture, was conclusive

evidence, and they abandoned it. Not all, however; a few persevered, among them Messrs. Jacob Rommel, Poeschel, Langendoerfer, Grein, and myself. We thought Mr. Longworth was human, and might be mistaken; and trusted as much to the evidence of our senses as his verdict, therefore increased it as fast as we could, and the sequel proved that we were right. After a few years, more wine was made from it in larger quantities, found to be much better than the first imperfect samples; and now that despised and condemned grape is the great variety for red wine, equal, if not superior to the best Burgundy and Port; a wine of which good judges, heavy importers of the best European wines too, will tell you that it has not its equal among all the foreign red wines; which has already saved the lives of thousands of suffering children, men, and women, and therefore one of the greatest blessings an all-merciful God has ever bestowed upon suffering humanity. This despised grape is now the rage, and 500,000 of the plants could have been sold from this place alone the last fall, if they could have been obtained. Need I name it? It is the Norton's Virginia.—Truly, "great oaks from little acorns

grow!" and I boldly prophecy to-day, that the time is not far distant when thousands upon thousands of our hill-sides will be covered with its luxuriant foliage, and its purple juice become one of the exports to Europe; provided, always, that we do not grow so fond of it as to drink it all. I think that this is pre-eminently a Missouri

grape. Here it seems to have found the soil in which it flourishes best. I have seen it in Ohio, but it does not look there as if it was the same grape. And why should it? They drove it from them, and discarded it in its youth; we fostered it, and do you not think, dear reader, there sometimes is gratitude in plants as well as in men?—



FIG. 101.—*Norton's Virginia Grape.* Berries one-third full size.

Other States may plant it, and succeed with it, too, to a certain extent, but it will cling with the truest devotion to those localities where it was cared for in its youth. Have we not also found, during the late war, that the Germans, the adopted citizens of this great country, clung with a heartier devotion to our noble flag, and

shed their blood more freely for it, than thousands upon thousands of native-born Americans? And why? Because here they found protection, equal rights for all, and that freedom which had been the idol of their hearts, and haunted their dreams by night; because they had been oppressed so long they more fully appreciated the

blessings of a free government than those who had enjoyed it from their birth. But you may call me fantastical for comparing plants to human beings, and will say plants have no appreciation of such things. Bro-

ther Skeptic, have you, or has anybody, divined all the secrets of Nature's workshop? Truly, we may say that we have not; and we meet with facts every day which are stranger than fiction.

NEW STRAWBERRIES.

BY J. M. MERRICK, JR., WALPOLE, MASS.

THE Editors of the HORTICULTURIST encourage me to give my results with new and old varieties of the strawberry, obtained from my experience during 1865 and the present year, and I therefore present this brief paper.

My beds were planted one year ago last spring, in good garden soil which had borne a crop of corn the previous season without manure. The vines were set in rows, the plants being put from eight to sixteen inches apart in the row, according to the vigor of their growth; and except in the case of new varieties, where it was desirable to multiply plants, the runners were trimmed off as fast as they appeared. Under this treatment, Downer's Prolific, Triomphe de Gand, Bartlett, and some others, thickened up into what may fairly be called bushes, with immense crowns full of buds. The Agriculturist plants, although every runner was encouraged to grow, thickened up into immense plants, and made the finest looking row in the whole garden. The beds were dressed with an abundance of guano and wood ashes; but no stable manure was applied, either before planting or during the growing season. All the vines were covered with leaves and pine boughs in November; and these were not removed till the middle of April, when not one plant was found thrown out or injured.

I ought not to forget to mention that the guano and ashes were applied at three or four different times through the summer, and that the plants were hoed around two or three times a week, most of the season, thus keeping the surface in good order and subduing all weeds.

The present season has been unprecedentedly cold. March was extremely cold and disagreeable; we shivered round the stove in April, and in May we had only two or three warm days.

The first half of June was cold and cloudy, with east winds and dull weather, and the second half was not nearly as warm as usual until the last week, when hot weather came on and ripened strawberries very fast.

As I have nothing new to offer upon methods of cultivation, I proceed at once to a consideration of the merits of different varieties, taking them in alphabetical order.

AGRICULTURIST.

In size and vigor of plant, size of berry, and general excellence, this famous kind stands at the head of the list, and surpasses all the other kinds—some thirty-two in number—which I have on trial. Unless some now unknown imperfection should show itself, I do not see why this must not become the great market berry of the country.

I give no minute description of this variety, as almost everybody has it, but simply add that my rows of plants have now, July 3d, been for a week the wonder and undisguised admiration of my neighbors, some of whom are well acquainted with common strawberries, but "never saw anything like this."

BIJOU.

A new variety. A good grower, of dwarf habit, with wedge-obovate leaflets, on rather hairy petioles, and of a dark green color. Flowers large and conspicuous. Ber-

ries roundish-conical, medium to large, bright crimson, sweet, and as good as La Constante.

EXPOSITION A CHALONS.

A new variety. Not a very strong grower. Leaflets wedge-obovate, sometimes curiously subdivided, deeply serrate, dull dirty green. In blossom about May 17th. Fruit large, conical, good flavor, bright color; no better nor much worse than the Triomphe de Gand.

FROGMORE, LATE PINE.

Plant a vigorous and handsome grower; leaves large, medium green; leaflets round-ovate sharply serrate, on somewhat hairy petioles. Flowers very large and conspicuous; the first one open on the 15th of May.

Fruit immense in size, brilliant crimson, regularly conical, parting easily from the calyx; flesh white, juicy and delicious. The plants are quite productive, and by their size and vigor, and the size, brilliancy and beauty of the fruit, merit a place in every collection.

HAQUIN.

Said by Mr. Knox to be the same as Princesso Royale, while Ed. J. Evans and Co. inform me that they consider this kind a little superior to Triomphe de Gand.

There must be two or more different kinds under one name, for, of all the kinds I ever saw or heard of, the Haquin is the most utterly and indescribably worthless.

It is a coarse, rank grower; with berries as big as large peas, of no particular flavor or goodness, and is a thorough humbug.

LA DELICIEUSE.

Plants of dwarf habit; leaflets very long, narrow and slender, some very nearly spatulate, and dull green in color. Blossoms small, with very minute stamens, giving it the look of a pistillate kind, and very different from the flowers of most of the French and Belgian varieties.

Berries in clusters, small to medium, dark red, deeply pitted, and having much

the look of our wild kind, sweet, juicy and very delicious, but, of course, useless for a market berry.

Some of my friends give this variety the preference in point of flavor over all others.

LA NEGRESSE.

A tolerably good grower. Petioles very long, reddish, and hairy; leaflets deeply serrate, rough, and dull green. Berries very few in number; not very dark colored when fully ripe; regularly conical, very large, sweet and good.

This variety has no special excellence, and no obvious claim to the name it bears.

LUCIDA PERFECTA.

This very striking variety, said to be a cross between the British Queen and the California Strawberry, makes so fine a display of leaves of a very unusual shade and texture, as to attract attention among many kinds.

The plant is an extremely vigorous and stocky grower, of a compact and rather dwarf habit, having very large, thick, dark green and glossy leaves. The leaflets are round-obovate, slightly crumpled, with not very deep serratures, much lighter on the under than on the upper side. As the plant gets older, the upper side of the leaf turns very dark green, and shines as though it were varnished. It is an extremely late variety, the buds on plants a year old and well grown being hardly visible down in the centre of the crown on the 10th day of May; and on the 1st of July there were still many blossoms remaining. Berries, medium to large, bright crimson, white towards the neck, obtusely conical or slightly coxcomb shape; flesh snow-white and full of rich sweet juice. Plants moderately productive, and curious in the development of the fruit-stalk, which grows to two or three times the length it had when the first blossom opens.

For a refined taste, I think perfectly ripe berries of this variety present more attractions than any other kind I know.

LUCAS.

A most sp'endid strawberry; a strong vigorous grower. Petioles medium length; leaves large, bright green, a shade lighter than the parent plant La Constante, and very handsome. Fruit ripe about July 3d. Berries very large, some of them immense, conical, and very regular in shape; rich, juicy and delicious, with a decided raspberry flavor. This is a berry that ought to make quite a stir among amateurs.

MADAME COLOGNE.

I find the name of this variety spelled in various ways, but the above is the title by which I bought my plants last year.

It is a strong healthy grower of somewhat dwarf habit, with large, crumpled medium green leaves, the leaflets being very sharply and deeply serrate, and tapering a little at the base. The berries are obtusely conical (with occasionally a long neck), sometimes irregular, not very bright crimson, white-fleshed, and decidedly sweet and good, though not very juicy. Plant a moderate bearer, although I notice that some young vines, eight or nine months old, sometimes sacrifice all their other fruit to produce one enormous berry. The roots of this variety are extremely fine and thread-like, in marked contrast to those of many other kinds.

ORE.

Tolerably strong grower, but very tender, and if exposed, winter-kills badly.

Petioles nearly smooth, glossy; leaves dark green.

Berries roundish, large, light colored, sweet and rich, but so very few in number as to make the plant of little value save to the curious amateur.

QUINQUEFOLIA.

Mr. A. S. Fuller wrote to me last fall that this variety was worthless and a humbug; but my experience this year enables me to say that one of us has not got the true Quinquefolia, for my variety is one of the very choicest.

Petioles with scattered hairs, leaflets rounded, crumpled, not very dark green, and not very peculiar in arrangement; at least I have never found a fine parted leaf.

The plants are very productive; and the fruit is a regular cone of immense size, light red, sweet, juicy and delicious in a very high degree. A most excellent strawberry.

Of the older and better known varieties I have a good collection, and would like to say that I consider La Constante, Triomphe de Gand, Lenning's White, River's Eliza, and French's Seedling, indispensable in a good family garden. Lenning's White, especially, is an exquisite strawberry; and the Eliza, although soft and light colored, is so excellent in flavor, and so wonderfully large in size, that I cannot allow it to be elbowed from amateur's collections without a protest.

My Russel's Prolifics have borne an immense crop of tolerable berries, about second rate in point of flavor.

I have no McAvoy's Superior, and therefore can add no word to the Babel of talk about these two kinds.

Those who prefer quantity to quality will raise the Russell's Prolific.

It seems strange to me that so few gardens are embellished with strawberry beds.

Everybody loves the fruit; but to indulge in purchased berries in generous quantities throughout the season has to be regarded by many as an extravagance they cannot well afford. It is very easy, on the other hand, for those who own gardens, to raise strawberries enough and more than enough for their own use. Any soil, not absolutely vile, will produce strawberries; and last year I saw a bed of Wilson's Albany filled with five years growth of grass, yet still flourishing tolerably and bearing a moderate crop.

Of course neglect is not to be commended. Plant the vines in hills, keep the runners cut off, keep the start of the weeds after you once get it, throw some leaves and pine boughs over the vines in November, let the

leaves stay in the spring for a mulch—(all this is more formidable when written out than it proves in actual practice)—and little trouble will be experienced in getting a supply of berries, better fruit than which, says Isaac Walton, the Creator *might* have made, but certainly did not.

I believe this saying, by the way, is older than Walton; but it is nevertheless as true as gospel, whether it be old or new.

In brief, I may say that, in my opinion, the best berry, taking all things into account, is the Agriculturist; the sweetest and dryest, Madame Cologne; the handsomest, Lucas or Quinquefolia; the best white, Lenning's; that which—if it really be a foreign kind—comes the nearest to our wild berries, La Delicieuse; the meanest, Haquin; and the most delicious, refreshing and palate-satisfying, Lucida Perfecta.

DISEASE OF THE VINE AND ITS REMEDY.

BY P. LAZARIS, OF ATHENS.

ANY substance, dried and pulverized, which does not injure the foliage or fruit of the vine, cures the disease of "oidium," with which it is affected. It is because of the same qualities that pulverized sulphur produces the same effect, and not as a specific, as is generally believed. Those who have thus far applied themselves to research, to discover a remedy for the disease called "oidium," have wished to find a specific which would as surely cause it to disappear as does quinine break the intermittent fever. Consequently, they have considered that sulphur possessed such specific properties, but no one discovered that any material reduced to very fine powder, and which would not injure the plant or its fruit, would equally well cure the disease. When it is spread abundantly on the grape, where it attaches itself easily, it acts, as I believe, by its drying the parasitic fungus, absorbing its juices, and thus cutting off its nourishment. In some microscopic observations I have made, I think I have seen this effect produced just at the point where the peduncle of the parasitic grains is attached to the grape, and possibly on the grains themselves. Having observed that those grapes which lay upon the earth were not attacked by the disease, I concluded very naturally that the most efficacious

means to cure it was by powdering the plant with earth.

The following experiments led me to consider my discovery as an infallible remedy. I powdered my vines with European sulphur, save one corner of my vineyard apart from the rest, which was saved for experiment. This was divided into two portions; one was treated with sulphurous earth of Kalamaki, called "antirusty" (antigalcuse) the other simply with clay, leaving, at the same time, a few vines in their natural state, to see if the disease would not cease spontaneously. In due time, the three portions treated with European sulphur, earth of Kalamaki, and with clay, alike showed the cure desired, while the vines not treated at all were entirely destroyed by the disease. Therefore, I concluded that pulverized earth merited equal confidence with sulphur. As some persons suppose that sulphur exercises an influence at some considerable distance, I repeated the experiment the following year in a part of my vineyard distant from where sulphur was used, and not forgetting to leave some vines without any treatment. Three months later, the vines not powdered were destroyed, while those treated with argillaceous earth were saved, convincing me fully that such argillaceous earth radically cure the

disease; yet I resolved to continue the experiments during 1858, and test the following matters:

1st. If, in order to save expense and labor, two powderings would not suffice instead of three?

2d. What is the best time to make the applications?

3d. If, having omitted the first application, it would be possible to effect it by a later application?

In order to settle these three questions, I performed the following experiments:

I powdered a number of vines before flowering, and twice later, at the times when sulphur is usually applied. The cure was complete. Fifteen days after I commenced the preceding experiments, I commenced another series in the same way.—Nine days had not passed before signs of the disease appeared, when I immediately repeated the application of pulverized earth, and had the satisfaction to see the disease arrested. I repeated the experiment the third and fourth time with the same results. Another series was powdered at the time of the setting or formation of the young grapes, but without success, although the earth was used abundantly. A fourth lot was left untouched in the midst of the rest, which was, like the last, attacked.

From these experiments I have drawn the following conclusions:

1st. The earth should be freed from sand and gravel, dried in the sun a few hours, pulverized very finely, and then sifted or bolted like sulphur.

2d. That as common clay is easily prepared as above, and adheres well to the vines, it is preferable to other kinds of soil.

3d. That the instruments generally used to apply the sulphur will serve for this also, at least for the first and second operation; but the third time, as the grapes have then some size, it is desirous to have them more

abundantly powdered, yet it is possible here to use the same instrument used for sulphur.

4th. The powdering succeeds best when applied after sunrise, but while the grapes are still somewhat moist with dew. The following times are the best for the application: a. When the young shoots have scarcely attained the length of a span, before the grape is in flower. b. As soon as the flower has fallen, and the young grape entirely set. c. When these are of the same size as is thought sufficient in sulphuration.

5th. Independently of these, even when performed with care, it is necessary sometimes to make extra applications, as, for example, each time after a heavy rain, after waiting a day.

6th. The removal of a part of the leaves as is usual is advisable, if practiced with moderation, otherwise the vines, deprived of leaves, the grapes may be scorched by the heat of the sun.

7th. If from any cause the first regular powdering has been omitted or neglected, it will be necessary to supply it by two others, with an interval between of eight or ten days. But it is indispensably necessary that it be done before the time of the second regular application.

8th. It is necessary always to perform the operation with the greatest care. It is well to have the workman followed by another, who again carefully examines the vines, and powders any that may have escaped. If, after this, disease reappears, it is proof that the operation has not been well done, and it is necessary to immediately repeat it with all the care that is bestowed when sulphur is used.

[Mr. Lazaris is the proprietor of one of the best managed vineyards in Corinth, and one of the highest authorities on the management of grape-vines.—En.]

(*Floral World.*)

PLAN FOR LAYING-OUT FIVE ACRES FOR A SUBURBAN VILLA.

BY E. FERRAND, DETROIT, MICH.

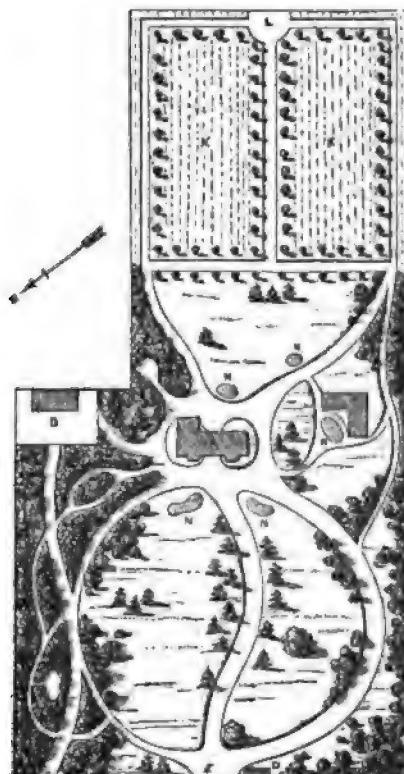


FIG. 102.—*Plan.*

REFERENCES.

- | | |
|-----------------------------------|--|
| A. House. | F. Entrance to Barn. |
| B. Coach-House, Stable, and Yard. | H. Group of Rhododendrons and Azaleas. |
| C. Greenhouse and Grapery. | K. Kitchen Garden. |
| D. Gardener's Cottage. | L. Entrance on Street. |
| E. Principal Entrance. | N. Flower-Beds. |

In this plan, the kitchen garden occupies about $1\frac{1}{2}$ acres.

SOUTHWARD, HO ! FRUIT CULTURE IN THE SOUTHERN STATES.

BY D. H. JACQUES.

I AM not disposed to say a word calculated to deter any one, who has the disposition and the means to do so, from engaging in the culture of cotton, rice, or sugar-cane in the South. These have always been, and doubtless will continue to be, profitable crops; but there are thousands who desire to try their fortunes in the sunny South to whom these branches of agricultural industry are practically closed. It is to these, and particularly to persons having some knowledge of fruit culture, that I desire to address myself.

It is not generally known, but is none the less an indisputable fact, demonstrated by actual experiment, that a large portion of the Southern States is admirably adapted to the culture of fruits, and especially is this true of what is called the "Middle Country," embracing the undulating and moderately broken region which lies between the low flat belt which borders the coast and the hilly and mountainous "Upper Country," and running through North Carolina, South Carolina, Georgia, and Alabama.

Having lately visited this "Middle Country," for the special purpose of examining it with reference to fruit culture, and being familiar, from former long residence in the South, with its soil, climate, and productions, a brief report through the widely-circulated pages of the *Horticulturist* may meet the eyes of many to whom it will prove interesting, and perhaps valuable.

The region particularly referred to in the following description (though my remarks will apply in the main to a large part of Middle Georgia and the adjoining States) comprises portions of the counties of Richmond and Columbia, Georgia, and is intersected by the Georgian Railroad, connecting Augusta with Atlanta.

In contradistinction from the more extensive pine lands of the "Low Country," which are quite level, the region under notice may be called the "Pine Hills." The face of the country, however, is undulating, the elevations reaching an altitude of 300 feet above the Savannah River. The gradually sloping hill sides are susceptible of easy cultivation, and are admirably adapted to vineyards, while the plateaus which invariably form the summits of these hills, and vary from ten to a hundred or more acres in extent, are well suited to orchards. The valleys are well watered and fertile, producing large crops of cotton or corn, and adapted to the growth of the small fruits. The scenery is everywhere pleasant, and in some localities quite picturesque and beautiful.

The soil is generally sandy. On the hills it is light-colored, and only moderately fertile. In the valleys it is darker and richer; and some of the bottom lands bordering the creeks possess a soil equal in fertility to the river valleys of the West. The sub-soil, lying at various depths below the surface is mainly a red clay, below which, in some localities, the railroad cuts and the hillside gullies have revealed immense beds of kaolin, or porcelain clay of the finest quality, and said to be equal, if not superior, to that of which the famous Staffordshire ware is made in England.

The region is watered by numerous creeks, tributaries of the Savannah, all of which furnish clear running water, and abundant water power. The water of the numerous springs is remarkably pure, except in the few cases, in certain localities, in which it is impregnated with iron.

The original forest growth on the hills is the magnificent long-leaved pine of the South—the monarch of the semi-tropical forest—known in its manufactured state to

the timber dealer and builder of the North as "Southern Pine." It is this tree which everywhere gives its peculiar character to the landscape, and indicates the nature of the soil and the climate. Where the pine timber has been partially cut off, there has sprung up a growth of oaks of various species, but mainly of a dwarfish habit, which contrasts strongly, both in size and in the color of their foliage, with the gigantic pines which here and there overshadow them.

In the bottom-lands which border the creeks, water oak, hickory, sweet gum, blade gum, maple, poplar, and other deciduous trees, form the principal growth.

Chickasaw plums, persimmons, pawpaws, or wild bananas (rich, sugary, and delicious); grapes, mulberries, blackberries, and whortleberries, are among the spontaneous productions of the soil. Figs and peaches grow almost spontaneously, and are found on every farm; but in general little attention has been paid to them.

The principal crops hitherto cultivated here are cotton, corn, Chinese sugar-cane, sweet potatoes, Irish potatoes, and field peas, with some wheat and rye, and the ordinary garden vegetables.

The cultivation of fruits is not an untried experiment in the region of which I am writing. Mr. L. E. Berckmans, the distinguished Belgian pomologist, after having been engaged in fruit-culture—making the pear, however, his specialty—for fifty years, first in Europe, and afterward in New Jersey, finally selected a place here as the scene of his future labors; and Mr. D. Redmond, one of the leading pomologists of the South, and well known for many years as the editor and publisher of the *Southern Cultivator*, is so well convinced of the superior advantages of this locality, that he is preparing to plant five or six hundred acres with fruit trees and grapevines, and this after an experience here of early twenty years. I may add that the next orchard, without exception, that I have ever seen, North or South, is in the immediate neighborhood of Mr. Redmond's

present fruit-farm. It consists of peach, apple, and pear trees, all in the most perfect condition, and in full bearing. It is a sight worth traveling many miles to see.—Its proprietor is a Northern man (Mr. Stanton), who has brought his Yankee energy, industry, and skill to bear upon this generous Southern soil.

Nearly all the fruits of the temperate zone may be advantageously grown here.—The cherry, the gooseberry, and the currant are, perhaps, partial exceptions. The grape, the peach, and the strawberry reach a degree of sweetness and exquisiteness of flavor utterly unknown in colder climates.

Strawberries may, by proper management, be kept in bearing for four or five months in succession, and sometimes they ripen in mid-winter. If planted in the fall, they produce a good crop the next spring, commencing to ripen from the 1st to the 10th of April, according to the season.—They sell readily in the markets of Augusta, Atlanta, Savannah, and Charleston, at from 25c. to \$1 per quart, and the supply has never yet equaled the demand; and they may, probably, even be sent to Nashville and Louisville, where they will command still higher prices.

Peach trees in this climate come into full bearing the third year from the bud, and I even saw trees in the nursery rows, two years from the bud, with peaches on them.

Peaches, carefully packed in crates, are sent from the neighborhood of Augusta to New York, the earliest varieties reaching this market from the 20th to the 25th of June, and commanding at first as high as from \$15 to \$20 per bushel. An average of at least \$5 may reasonably be counted upon. Once properly planted, one hand can cultivate from thirty to forty acres, extra help, of course, being required to gather and pack the fruit for market.

Apples and pears will probably prove even more profitable than peaches, they never failing from frost, as the latter sometimes do even here.

Grape culture and wine-making have proved immensely profitable, the wine produced being superior to that made anywhere else in this country.

The climate of Middle Georgia is mild, equable, and in the highest degree salubrious. No more healthful region, in fact, can be found, either in America or Europe.—The fall and winter are absolutely delightful, and may be compared to a perpetual “Indian summer,” in which the air is “tempered into a mild deliciousness.” The work of the farmer is never interrupted by deep snows and frozen ground, and his heaviest labors are performed in winter. In summer, the temperature is pretty high

during the day, but, on these breezy hills not oppressive, and the nights are invariably cool.

Strange as it may seem, land admirably adapted to fruit-culture can be bought here, in the immediate neighborhood of the railroad, for from \$10 to \$12 per acre. The tendency, however, is upward, and these lands will soon command much higher prices.

Persons who, like the writer, are contemplating emigration to the sunny South, will do well to inform themselves in regard to the Pine Hills of Georgia.

389, Broadway, New York.

INSIDE GRAPE BORDERS.

BY FOX MEADOW.

LET not the world accept as an *impossibility* the trial and failure of an object sought to be effected by any man, or dozen of men in any part of this known world. For why? Because if such should be allowed to become the rule, man would then acknowledge man to be infallible—and this, as far as the great book of horticulture is concerned—never entered its pages, and never will.

As my friends in horticulture, J. S. Houghton, M. D., and William Bright, of Philadelphia, have had much to say about inside borders for vines,—their excellent qualities and properties, the power of controlling, root action, and a host of nice other little things that ought very much to amuse the babies—yes, said more and written more on this one subject than all the host of horticulturists put together in America; we think the Doctor ought to have come forward to the *front ranks* in horticultural literature and made his statement, which we see you, Mr. Editor, have copied from “Hovey’s Magazine.” Why carry such news as this all the way up to our North back door? But “open confession is good for

the soul,” so better somewhere than nowhere. Time will not permit me to enter into the details of Dr. Houghton’s failures, and others around Philadelphia. Some of those borders he refers to, however, we have seen, also many around the city of New York, and we must confess, that in the whole course of our life we never saw such a lot of ridiculous, absurd, foolish, unnatural constructed things! For instance, one house, 200 feet long, vines planted two feet apart, and the supply of water brought in, is a *half inch leadpipe*. This house is dying for water. Another large house we could name, is planted with vines three feet apart, and a *second row*, the same distance apart, along the middle, and the border having an *inclination from front to back!* In this house the water has to be carried in by hand. The water all runs to the back of the house, and common sense will determine the consequence. A third house we could name is quite long, about *nine or ten feet wide*, and sunk down, down, down beneath the surface of God’s EARTH, far away from the position where God called forth light and *saw that it was good!*

We may contend that this and that, and everything has been done properly for these inside borders, but after all, when some common sense practical man comes to look for the true cause of the failures, it is seen in a moment. What practical gardener, of experience in grape culture, would attempt to control the moisture from, or on, vine roots in the Fall of the year? These absurd notions have been the cause of killing more vines perhaps than all the other ridiculous directions put together. When the border is wholly inside the house, it should be plentifully supplied with water, and so arranged that the labor of pumping be avoided. Inside borders should have the direct rays of the light shining on them, and then my friend Dr. Houghton will find that the "some magnetic or electric influence from the body of the earth" can be, and is, of some necessary importance as life to the vine. Inside borders we should always use when the fruit of the vine is required very early, but under no other circumstances, unless the condition of things compelled it. Then, we say can be grown as fine grapes with a border wholly inside the house as we can outside the house—only, it requires a little better judgment in the management—a little more care, and a good deal more determined perseverance. Keep all your nostrums out of vine borders. Make the border never over three feet deep of soil. Apply stimulants to the top of the ground when the vine is in fruit—the time it requires it—not when a young plant, to urge it full of obnoxious ammonias, Taric acids and a host of quack medicines! suppose we study the subject of light little more—its influence and action, and on-action on the atmosphere and soil of the inside grape border. If our M.D.'s of medicine would study this question of light and its influence on the vine and other plants cultivated under glass roofs one half as

much as they have given their attention to the action of light on the human organism, we should find, and gladly too, that the subject of horticulture was greatly indebted to them, above that which to-day stands to their credit. From what Dr. Houghton has written in the article in Hovey's Magazine, (and he writes with much force), its logic and influence may produce a similar effect on the minds of its readers, as did his articles when writing of the *super-excellence* of (now these dethroned, and miserably conceived) aerated, suspended, isolated, detached, concreted divided inside borders of Mr. Bright and Dr. Houghton!

Now, what we wish to say is this—that the inference deduced from the Doctor's letter is that "inside borders" are a total failure. That the vines will die and dwindle away so soon as they begin to fruit. That this is the Doctor's experience around the city of Philadelphia, at the same time the impression is conveyed to the mind that inside borders must of necessity kill vines everywhere else. I conclude this note by inviting the Doctor to Fox Meadow Gardens, where I will show him two hundred and seventy-two feet in length of *simon pure inside border*, which never had a particle of dung or bone in it; the vines have been in fruit six and seven years; many of them will measure nine inches in circumference, and from which we have cut bunches of grapes, weighing seven pounds—will prove it by our books, and will be able to show some bunches of that weight this present season. INSIDE BORDERS A FAILURE! WHO WILL COME AND SEE?

[Fox Meadow, to prove his assertions, that grapes can be well grown by his method, has sent us a magnificent bunch cut from a vine growing on an inside border. With such proof who can disbelieve? Eds.]

NOTES ON THE JUNE NUMBER.

VENTILATION.—In the earlier volumes of the *HORTICULTURIST*, some fifteen or sixteen years since, its then editor, the lamented A. J. Downing, wrote upon the subject of ventilation, and from his writings introductory has attention more and more been drawn to the actual necessity of pure air for health. At that time, not one public hall or church in a hundred had any means of ventilation, except by the doors and windows. At this present time, few who claim to be architects omit the detail of ventilation in making up their specifications and working drawings, so that most of our houses for public meetings are in some measure supplied with pure air. Our smaller houses, the residences of the masses of our people, are, however, as yet, without any means of ventilation, except by the doors and windows, and I am glad to see the *HORTICULTURIST* again touching the subject.

RURAL ARCHITECTURE—SMALL STABLE.—Mr. Harney has my special thanks for this design. It is, to my eye, the best thing I have met with; and while he estimates the cost at \$1,200, there are many sections of the country in which readers of the *HORTICULTURIST* reside, where it may be built for one-half the money.

GRAPE-VINES FROM SEED.—The writer, I judge, takes much my own view of the probable advantages of scientific hybridization over that of seeds selected from choice kinds, and with a probable chance of natural cross impregnation. While I would discourage no man's careful attempts at artificial or scientific hybridizing, I yet believe his chances of success in the production of a valuable variety equally good when taking seed from a variety surrounded by others, and all choice kinds. We have the statement that Creveling is made to set its fruit more abundantly by having the Concord contiguous. The cause must, therefore, probably be, that the impregnat-

ing characters of the Creveling are deficient, and supplied by the Concord; hence, plants grown from seeds of Creveling so impregnated would possibly produce a grape resembling the Concord, but ripening with the Crevelling.

The Iona in its fruit partakes of Catawba and Delaware, while the growth is more of Diana, which latter undoubtedly came from seed of Catawba.

The cherries originated by Professor Kirtland were obtained from seeds of a yellow Spanish tree, surrounded with Black Tartarian, May Duke, and other choice kinds, and their impregnation was the work of Nature; but when Nature had acted, the watchful cultivator seized the seeds, and obtained from hundreds, nearly all showing some good qualities, a few very superior sorts. It was, however, a work of time, and so must ever be the production of anything really an improvement in pomology.

Mr. Caywood's method of sowing grape-seeds differs some from mine, but may be better. I take a small frame; set it sloping towards the north; fit on my sash; have one foot deep of good, rich, sharp sandy loam in it; and when I have a few seeds of a choice grape or pear, I plant them at once an inch deep in the soil, keeping my sash on, occasionally giving air, that it may not get damp or mouldy. In this way, seeds of nearly everything can be grown. There is no hastening, it comes in course.

HOUSE FOR DRYING FRUIT.—A capital design, which, as apples promise a full crop this season, I hope to see frequently built in order that we may have dried fruit clean and wholesome, and not, as is too frequently found, overspread with the filth of flies.

HEART'S PIPPIN.—Will not Mr. Downing give us some account of this apple, its origin, &c.

PROTECTION OF PEACH TREES IN WINTER.—Mr. Jenkins has given us a practi-

and descriptive account of his mode of growing peaches yearly out of doors, and in unfavorable climates and seasons. If our seasons are to continue as they have the past few years, we shall find this practice, although embodying some labor and trouble, prove a profitable part of the fruit grower's life.

PLAN FOR LAYING-OUT A SQUARE ACRE Lot.—In the main, a good plan; but there is too much of carriage-way for the amount of ground, and I have always had an aversion to circles in front of the house, because if left open, that is, in lawn, there appears no reason for traversing fifty feet to get ten; if massed with shrubbery or trees, with a view to giving a reason for the curving of the road, then the extent of grounds from the house is reduced. In this plan, keeping its main features, I would, on entering from the street, dispense with the left hand road, throw in a mass of trees from the gateway on the left hand side, and open the balance toward the house into a lawn, forming my turn way on the side toward the stable.

WHARTON'S EARLY PEAR.—Some years since, I ate of this pear at Cincinnati, and then thought it one of the best large-sized early pears in cultivation. Perhaps Dr. J. A. Warder, or Mr. R. Buchanan, will tell us something of it.

MARGARET PEAR.—It is not every new pear that proves of great value, nor is it always the largest sized fruit that proves most profitable. The market-grower, as well as the amateur, requires the tree to grow freely, prove healthy, bear abundantly fruit of good size, and a quality pleasant and agreeable to all, even if it is not of the highest flavor. These new sorts should be tried extensively—if good, retained; if inferior, regrafted.

HORTICULTURAL MATTERS AT THE HAWAIIAN ISLANDS.—A pleasant, readable letter, promising us a classified list of the products of Honolulu, which we shall be most happy to read.

MY NEIGHBOR AND HIS GUN.—There, now, friend F., you have fired your shot, and if it will only be half as destructive in

checking such neighbor's practices as you say his gun is upon the sweet songsters, we may look for a check to this practice. The suburbs of our cities, especially at the West, have other bird destroyers, yet more injurious, because they roam at will over your grounds, pulling down fences, and trampling down plants. I refer to more or less of English and German foreigners just over, and who think to handle a gun, and shoot a robin or little red squirrel, one of the great items of living in a *free* country.

POTS SHOULD BE DRAINED.—Mr. Cowan has certainly theory, as well as the result of actual practice, to sustain him in the draining of pots or plants. Mr. Henderson undoubtedly is successful in his way; but it is, perhaps, a query whether the old practice is not the better one. As I have before written, all innovations are not improvements.

FOWLS AROUND A COUNTRY HOUSE.—All right. I will only say that, while colored dorkings may be all here declared, a cross of speckled dorking and Shanghai make really a larger and better bird for both table and laying purposes; but remember you must always have a pure dorking male bird, or soon your flock is deteriorated to little better than common barnyard fowls. Strictly for laying purposes, when chickens are not to be raised, I suppose no breed equals the Bolton Greys, or Creoles. The Black Spanish come next to them, and are certainly—that is, the white faced ones—most beautiful birds.

GLAZED VS. UNGLAZED FLOWER POTS.—Here is a chance for Messrs. Cowan and Henderson. I reckon if the glazed pot were used, some drainage at bottom would be found essential to the health of the plant; and if good drainage is given, I do know that very fine plants are grown in glazed pots in a house living-room, heated by a stove. As Mr. Reid says, the circumstances are not always more than half told, hence the truth is half a lie. The experimenter cannot be too minute in recording the position and circumstances under which he has success or failure.

REUBEN.

E. W. BULL ON GRAPE CULTURE.—II.

BY J. M. MERRICK, JR., WALPOLE, MASS.

THE first season after planting, all that is necessary to be done, according to Mr. Bull, is to keep the ground well stirred, by means of the cultivator, so that the roots may easily penetrate the soil.

The vines should be allowed to lie upon the ground the first summer, the ends of the growing shoots being occasionally pinched, to set back the sap and consolidate the wood, which, if properly treated, is to last for centuries.

If the vines grow so long that the wind rolls them over on the ground, put a stone on them to keep the leaves right side up, remembering that it is better for the vine to be blown about by breezes than to be tied stiffly to a stake the first year.

"I do not stop here," says Mr. Bull, "to offer abounding proofs of the fact that it is better for a vine to be blown about the first season, but will only say that I have found by actual experiment that the vine tied up closely will not grow nearly so much in a given time as the vine left free to move as the wind moves it."

A grape vine should never be pruned at the time of planting, not even to give it shape, so important is it to get a well established vine with abundant roots before it begins to bear fruit."

In his fourth and fifth papers, Mr. Bull reviews some of the leading methods of training now in use, including the renewal, or long-arm system, involving the use of two poles to each vine, and which he pronounces the best where the vines need winter protection; the short-spur system, which he affirms gives the best grapes; and decides, finally, that the espalier mode of training is, on the whole, the best.

It costs more at first than other systems, but is economical in the end.

For this method, posts are needed from four to six inches in diameter, and eight feet long; and scantlings two inches square and

twelve feet in length. The posts should be set two feet deep and twelve feet apart—This distance brings the posts between the vines, which are six feet apart; and the scantlings will reach from one post to the third beyond.

The strips of wood should be firmly fastened to the posts, the lower one eighteen inches, and the upper one six feet from the ground. Wires one-eighth of an inch in diameter, should next be nailed on the bars perpendicularly, and at a distance of three inches from each other.

This arrangement of the wires is preferable, for the reason that the tendrils fasten upon the perpendicular supports readily, and no tying up is necessary, as in the case where horizontal wires are used.

When the vine has reached the lower bar, the shoots from the two upper eyes are to be laid in diagonally, and tied so as to give the vine the form at the end of the season of the letter Y. It is to be pruned back to the well ripened wood, wherever that may be.

The next year the buds left on the diagonal arms will grow, and bear fruit—a light crop should be taken. Superfluous shoots should be rubbed out, and the two terminal shoots laid in diagonally, as before.

When the trellises are filled with bearing wood, six or seven tons of grapes may be had from an acre.

Such is a tolerably fair *resume* of Mr. Bull's very practical papers on viticulture. The main points he insists on, it will be observed, are—the thorough ploughing of the soil; no shortening of roots in planting; no trimming the vine the first year; the use of mineral manures only, and those in small quantity; continually pruning back to the thoroughly ripe wood, and the adoption of the espalier for training the vine, giving each vine two diagonal arms.

He does not claim, we presume, that he

advances any very original advice; but we have the satisfaction, in reading his papers, of knowing that he recommends only what has proved useful and profitable in his own hands.

We call especial attention to his advice not to shorten the roots at planting, and to the small quantity of manure he uses. In regard to this latter point, the correctness of his view will become apparent when we consider how very small a portion of the constituents of its fruit the vine takes from the soil, and how large a part from water and the air.

The grower of out-door grapes in the New England States must be prepared to meet with occasional trials and vexations.

Late spring frosts are much to be dreaded.

This year, there fell a frost on the night of the 14th of May that really discouraged some of us.

My pet vines—Allen's, Rogers' Hybrids, of various numbers, Ionas, Israellas, and others—which were trained last year as symmetrical as the "pictures" in the grape books, and had made a growth of from two to six inches this season, were very many of them utterly ruined.

The hints I had thrown out to my acquaintances, to the effect that they might call on me in the fall if they wished to see some of the newer kinds in fruit, have lost much of their significance, as I have now, with my best vines, two years' work to do over again.

I think the late spring frosts are much more disastrous than those which sometimes assail the vines in late September.

Of making books there is no end, certainly no end of making books upon grape culture.

Two works, very different in character and value have just been published, and seem to demand a passing notice.

The better and less pretentious of the two is "My Vineyard at Lakeview," a charming little book that professes to give the actual experience of a western grape grower, detailing not only his successes, but his blunders and failures. It is written in a pleasant style, without any attempt at

display, and contains much advice that will prove very useful to a beginner—the more useful, because derived from the experience of a man who has had no leisure for fanciful experiments, but has been obliged to make his vineyard support himself and his family.

Of a different class is Strong's new book on grape culture. We must confess that this book disappointed us.

It was introduced with so loud a flourish of trumpets, and is so magnificent in external appearance, that it was only fair to suppose that its contents would prove valuable, and furnish growers with some new ideas.

Very few new and original suggestions, however, are given by the author, whose whole work, where it is not a mere compilation, seems too much inclined to be theoretical, and to recommend methods of growing and training the vine that have not stood the test of actual trial.

Every amateur, of course, on receiving the book, turned at once to the chapter on Newer Varieties, expecting from a grower of Mr. Strong's experience, a full and critical examination of the many newer kinds of grapes, which are to most of his readers names, and nothing more; but it is safe to say that many readers have felt as much vexed with this chapter as with any other in the book.

We do not regard the book as any improvement on our old friend, Fuller's Manual; and while there is room enough for a new book of new ideas on grape culture, we see no place for mere compilations, and repetitions of familiar notions.

I am obliged to Mr. Caywood for his encouraging remarks in the June number, and beg leave to say to him that the greatest vexation I experience in planting grape seeds arises from the fact that not one in twenty of some kinds ever germinates.—Some come up as even as a row of peas, but most kinds are exceedingly capricious.

What seems a desideratum in such experiments is uniformity of germination. How can this be attained?

LETTER TO COUSIN SELINA.—II.

MY DEAR COUSIN I can fancy that on this mid-August day, in the old Home-stead, you are all faint, oppressed, and weary, with excessive heat. I seem to see Uncle Simon reclining listlessly in his ample chair on the piazza, smoking his comfortable pipe, and alternatively dozing and reading the country paper, while cousin Washington, his face bronzed with the long summer's exposure to the sun, and glistening with the dews of perspiration, starts afire, after his accustomed nooning, with oxen and cart. How hushed and calm all nature is. The hot sun pouring down a flood of rays; the quivering air which comes and goes in buring waves, like the even breath of a sleeping infant; the green leaves, turning up their discs towards the sun, or sensitively shivering in his gleam; the sharp ringing sounds of the insect tribes that love the sun and poise themselves in his burning rays; the calm unruffled surface of the little lake that lies in the hollow of the hills and gives back the images of banks and rocks, and trees and clouds:

"The summer like a victor
On a car of glory borne,
With a thunder-roll at even,
And a clarion blast at morn,
And a wild illumination,
Lighting up the living air,
Till our temples throb with fever.
And we faint beneath its glare."

All this I can *fancy* up here among the New Hampshire mountains, where the temperature is now so low down in Fahrenheit as to render the stove in the hotel parlor an object of considerable favor and affection.

On my way to the White Mountains, I took in, as I purposed, a few days' sojourn at Nahant. I should like to tell you about the sea, but one or two persons have mentioned the subject before, and I modestly doubt my ability to say anything new. At Lynn it was my habit to go in the morning and seat myself upon a great rock, around whose base the waves, calmed into gentle

ripples, lisped and murmured some liquid syllables that I could not translate into the language of men. There, in a little hollow, I rested in the sun, watching how the silver-white flowers were born and vanished on the undulating swells of that faithless blue meadow, and wondering if the sea-serpent were pasturing there; and if he should chance to come along and snap me up, like a dandelion top, what a paragraph it would make for the newspapers!

At low tide the tops of numberless rocks are visible, covered with thick palls of seaweed, like half-drowned giants, or submerged Medusas, black and shaky. Few ever visit that cave, and there is no sign of life there, except the living, thrilling unrest of the sea, and the "immeasurable laugh" of its waves. The other day, I went out to the long beach in the storm, to see the breakers, and it "paid" well, although I was almost frozen with the cold, altogether beset with the wind, and stunned with the roar, yet I could not resist following the retreating waves down the sands; but quick of foot was I when back there came a mighty green billow, crested with curling foam, and projecting its spray a long distance beyond me. I did not attempt racing with the breakers again; but when the under-tow sweeps so gracefully back, one feels an absolute desire to be borne along with it.

From Nahant to the White Mountains, I had left behind me the sea, but on the morning after my arrival, I looked down from the summit of Mount Washington upon another sea—and what a sea! Waves of water at their highest are, I believe, not much higher than the fore-top of a man-of-war. Waves of vapor and mist, they alone are sky-seeking mountains, dashing high, but with no ocean's roar; and in their silent ascension, all held together by the same spirit, but perpetually changing their beautiful array. Here were mountains in a sea. Far up, above and amidst that wondrous

region of mist, through which you hear voices of waterfalls, deepening the silence, you behold an array of mountain tops, blue, purple, and violet, for the sun is shining straight on some, and aslant on others, and on others not at all.

Have you not seen sunsets in which the mountains were embedded in masses of clouds, all burning and blazing; actually blazing with magical mixtures of all the colors that ever were born of light, intensifying into a glory that became insupportable to the soul—as insufferable to the eyes, and that left the eyes for hours after you had retreated from the scene, even when closed, all filled with floating films of cross-lights, separating the imagery into gorgeous fragments? Such was last night's sunset at the Glén House. Behind us were "the thin, high ridges" of Mount Carter and its spurs, 3,000 feet in height, and green with unbroken forests to their crests. On the south-west, one sees the steep, bony braces of Mount Washington, running off, one behind the other, into the Pinkham forests. Directly in front are the out-works and huge shoulder of Mt. Washing-

ton itself, and behind this heavy shoulder on a retreating ridge, the pinnacle where the Summit House stands. Associated directly with Mt. Washington, and bending around to the north-west and north, are Mt. Clay, rising over the huge 'Gulf of Mexico'; the stout, square-shouldered Jefferson; and the symmetrical, sharp, and splendid pyramid of Adams, with its peak so pointed that it looks unscalable. This mountain is by far the grandest of all in shape and impressiveness. And next to this, with lines running eastward, is Mt. Madison, which completes the "staff of Washington," and forms that wonderful and magnificent panorama which the gorgeous sunset revealed and glorified.

My sojourn among the mountains was short from necessity. If I can persuade myself to a summer's vacation next year. I shall assuredly be off among the White Hills of New Hampshire.

With accustomed remembrances to all the inmates of the Homestead,

I remain, your loving cousin,

REUBEN.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

POSITION OF HOUSE.—In building, the first thing always to be considered is the place whereon the house shall stand. Now we might write a long article on this subject, but shall confine ourselves to a few plain and practical truths.

First. It is conceded that to look well, a house, if by itself not part or parcel of a block, must have a broad and clear base of say at least ten to twenty feet to stand upon. If the ground right about the house is at once sloped or graded from it, then the house presents the appearance of being

on a point, and liable to topple over at any time.

Second. There is no loss of ground in placing the house in one position more than another. Each and every portion occupy just the same amount of ground.

Third. There is more enjoyment usually obtained from the front than the rear of the house, because it is expected all the living rooms of winter will look out toward the front; and in summer's heat there is the place where of an evening we all do sit.

Now, with these conceded features, we

will assume one more, viz., that the more ground before a building the more is its dignity and character. Enhance and then urge upon those who are about to build, the advantages of placing their house well to the rear of the lot. If a suburban lot near a city, your time mostly occupied away from home, your garden is only an expensive luxury—every bean or radish costing you three times what it can be bought for in the market; but fruits of every sort can be managed by yourself; and they are always better from the bush or trees. You can just as well occupy a part of the ground in front of the house with them as with shade trees; and thus in placing your house well back, you have lost no ground. Of an evening sitting, to be well back from the dust and sidewalk gives that retiracy and homeness which we all seek, and which we cannot have when our house is very near the street.

If in the country, on tracts of five to fifty or more acres, the placing of the house well back from the road is even of greater moment, as it gives not only increased character to the place, by adding appearance of extent, but its advantages are in enabling its owner to look over his place from its residence, and perfect freedom from dust, straggling beggars and thieves.

As before said, we might write a long article on this subject, but think what we have said should be sufficient to induce any builder to place his house well back from the road.

THE FRUIT CROP.—This year, we believe, will prove less than an average. Cherries have been in many sections a total failure; in others only a moderate crop. Strawberries, at the West, were very much injured by the winter; and the currant and raspberry crop is almost a failure. Pears were much injured while in bloom, and, together with apples, are largely dropping before mature. Grapes, through the West, in old vineyards especially, are less than a half-crop, while many vines are entirely destroyed.

MILDEW ON THE GRAPE.—Our readers should remember the mildew and apply such suggestive remedies or preventives as appear plausible. We have advised trial of weak salt water, weak copperas water, flower of sulphur, sprinkling with weak sulphur water, &c., all of which we hope to hear trial made of, and will thank our friends for notes of the results.

GRAPES FROM GENOA.—In 1845, Mr. Lester, then consul at Genoa, brought to the States, vines from Piedmont and Savoy. They were advertised to be sold on the 4th July, 1845. What has ever become of any of them? Who can tell?

TOMATOES.—The first record we have (in our library) of the use of the tomato as food was in 1803, although, we believe, they were used as early as 1792, and perhaps earlier. Who can enlighten us? Of varieties cultivated this year, we shall be obliged to our friends for notes. We have a seedling with a very broad leaf, that, during the past two years, has matured earlier than any variety we have purchased. We are watching it carefully again this season, side by side with Tilden. As we write, it has fruit as large as English walnuts, while the Tilden is only in blossom. Perhaps the latter will catch up. We shall watch it!

BLIGHT ON FRUIT TREES.—Recently we have had accounts from Northern Ohio and other sections speaking of a blight affecting the ends of all young twigs in pear, apple and quince trees. In some cases not only is this year's growth affected, but more or less of the last year's growth, until the trees look as if a big fire had been made near and scorched them. Can our entomologists tell us if this be not (as we suspect) the attack of the *Scolytus pyri*, and is not because of the crude sappy condition of the tree?

SHADE TREES.—This is the month when we most appreciate shade. And now, good readers, we want you, in the country, to,

for just one moment, while enjoying the cool shade of elm or maple, think of the little children sitting in the one story school house on hard benches—no backs—the sun in open exposure at 105, and not a tree or other obstacle to intercept its effect on the roof. Imagine yourself confined there one half hour, then you will without a doubt resolve to plant shade trees around that school house wherein your and other children have to while away long and tedious hours in the heats of summer. Our word too, you are less than man if you don't keep and put in practice your resolution.

It is desirable that the laborer, as well as the head-gardener, should take an interest in, and see, the higher operations of the art; he will perform the lower ones all the better for the apprenticeship. Though he be likely never to have a vinery or a pinery of his own to attend to, an initiation into their mysteries will help him to treat his children to a plateful of early radishes, and his wife to a dish of out-door grapes, when he has a cottage, wife and children, of his own. We have observed in the gardens of those laborers whose opportunities are above the average of their class, most pleasing evidence of knowledge they have thus acquired. Just as a course of mathematics at college would make a man all the more valuable as an accountant.

THE extreme geographical limit at which horticultural practices have been carried on, is probably marked by Sir Edward Parry's cultivation of mustard and cress, "Sallets good for the scorbute," while exploring that most fearful of *cul-de-sacs*, the North-West passage. This was certainly enturing a high, if not a great latitude in gardening, and deserves to be remembered as one of a thousand instances of the benevolent wisdom habitually exercised by one devoted to scientific explorations in hospitable climes. Parry's ship was the *Thima Thule* of kitchen, as well as winter gardens.

THERE ARE between forty and fifty known varieties of the Ivy, some of them arborescent. Many of these varieties are adapted to surface covering, and others are much esteemed for forming belts or margins to flower beds, and for training over wicker work around beds. In this latitude, the ivy grows better on a north wall than on a southern exposure. The intense heat of our summer suns, at certain stages of its growth, seems to be fatal to the life of the "ivy green."

THE Spots which we observe on fruit, such as apples and pears, are generally produced by a minute, brown, parasitic fungus, growing beneath the cuticle of the fruit. This fungus, instead of penetrating the fruit, comes out upon the surface, and destroys the vitality of the surrounding tissue, and thus "makes its mark." In some fruits this growth is so vigorous as to cause the surface to crack, and in this way, almost destroy the crop. As the growth originates beneath the skin, it is almost impossible to apply a remedy.

VIRGILIA LUTEA—YELLOW-FLOWERING VIRGILIA.—A short time since, we saw a tree of the *Virgilia* in flower in a gentleman's garden, and, although it is described as having *yellow* flowers, there were *white* racemes, about eight inches long, like a bunch of grapes, only more pendulous; the foliage is dark and rich. Can it be an error, of color of flower has been made by botanists, or was this a freak or sport of a single plant?

THIN OUT THE FRUIT.—If fruit is set too abundant on your trees, set about thinning it out at once. It may now seem sacrilege and a loss; but if you do not believe one say so, that the one half remaining will, at maturity, be fully as much in bulk, and more beautiful and superior in quality, to what it would had all been left on; then try the experiment on one tree, and give us a record of results at a future time.

FRUIT AT THE SOUTH.—The late devastation of war has undoubtedly destroyed a great portion of orchards at the South that soon will have to be replanted. The Northern States are quite unreliable for peaches; but, as a crop, it was, in former years, regarded one of the most profitable at the South. We have been looking over old records, and find the testimony of nearly all the best growers is, that the best sorts at the North were also the best sorts at the South.

In our earlier days, traveling South, we found the Columbia and the Heath both reproduced and grown as seedlings in hundreds of cases.

FRUIT LADDERS, for gathering apples or other fruit on tall trees, should always be on hand. The time saved in gathering even the fruit of one tree, will often pay the cost of the ladder, to say nothing of the saving of injury done to the tree, and the fact that all fruit carefully hand-picked brings extra price in the market.

THE TILDEN TOMATO has already acquired reputation among those who cultivated it. As far as experiments have gone, it would seem that its good qualities consist in its size and shape, the solidity and firmness of its flesh, its excellent and refined flavor, and its quality of remaining long on the vine after it is ripe, without decaying. If these merits shall be satisfactorily established, after fuller experiments in its cultivation the present season, it will prove a valuable acquisition to the kitchen garden.

THE MAHALER, or perfumed cherry, so generally used by the nurseryman for dwarfing the cherry upon, is one of the most beautiful of second-class size for ornamental planting, and especially advisable in grounds of small extent. It adapts itself to, and grows freely in all soils; is elegant in its foliage and spray; fragrant in its flowers and foliage; clear of all insects; and retains its foliage quite late in the autumn.

CHEAP PAINTS.—Some years since, upon a recommendation in the *Albany Cultivator*, we tried the following mixtures for paints, and found them quite successful:

1. Water lime cement, and raw oil, using any dryer common to white lead oil paint. 2. Cement and coal tar, shading the color with ochre—Spanish brown, &c., to suit. Both modes give good results; and, for coarse buildings, we think the latter even better than oil paints of white lead, &c.

SAVE THE LEAVES.—As the leaves commence dropping in the fall, they should be carefully gathered, and housed under a shed, for use as stable bedding, or for mulch protection to tender plants, or for the formation of hotbeds in spring.

GREEN HOUSES should be carefully repaired and cleaned before placing plants again in them for the winter. This month will be found of much leisure for the purpose, and the work should not be postponed.

APPLES AS FOOD.—Somewhere—we do not recollect just where—we have read an analysis of the apple, in which sugar and dextrine, two valuable agents in the support of life, were recorded as largely in its construction. Health, all physicians, as well as common sense observe, is aided by the free use of ripe fruit, and of the apple in particular.

BELLE MAGNIFIQUE CHERRY.—We have watched this cherry many years, with conflicting views as to its value. The tree is hardy; a good bearer; and when most of other varieties are rotting, or perhaps so abundant as to be no rarity, the fruit of this is quite green. Afterward, it ripens up, and gives us fruit from the last of July to middle or last of August. It has, however, one objection, to the make haste of Americans, in that the tree requires size to produce a quantity of ripe fruit at one time. While the trees are young, only a few specimens may be gathered at a time.

Messrs. EDITORS:

A very dry season here, but, apart from ills of transplanting in drouth, reasonably to farm and garden. Fruit crops an average; cherry above an average; peaches, possibly one to the square mile hereabouts—in Egypt, southern Illinois, full crop of seedlings; light crop of budded. Speaking of cherries, the practical sum total of the catalogues for this section is:—1. May Duke; indispensable, though least reliable bearer of the set. 2. Early Richmond; the great staple. 3. Late Kentish common red, or pie cherry; very like Early Richmond, but ten or twelve days later.—4. Belle Magnifique; truly magnificent and worthy; late; in season now, and for a week or more to come. 5. English Morello; the earliest, surest, and best bearer of all; a perfect marvel of productiveness. The fruit is not as good to eat as our all-prevailing common Black Morello, which, were it as uniformly productive as the others, I should certainly include in this list; as it is, it would be with me the sixth for the West. The Kirtland, Governor Shannon, and Plumstone Morellos, after fruiting five years, prove too shy. The fruit is large, the season now, with Nos. 4 and 5 of the above list.

Of strawberries, Wilson is worth all the rest twice over. Russell, even with best opportunities to fertilize, is shy. I notice that the Buffalo and McAvoy's Superior are called the same, which I most gravely doubt. I have Buffalo from a good source, and have seen it two removes only from original grower (so said), and can safely and utterly, in those two cases, deny identity with McAvoy's Superior, which I have known well for ten years, which is irregularly shaped, darker and rougher surfaced in fruit, also later than Buffalo.

McAvoy's Superior is one of the very latest old sorts, and a great bearer usually, though pistillate. The foliage, also, is thinner, greener, and less crumpled than Buffalo, which, so far as I have seen, is very shy West; the fruit more polished; like Hooker's in general appearance.

For a very late berry, nothing here can compare with Georgia Mammoth, Though a light bearer, yet it is so hardy, and the fruit so firm, sweet, and late, I would not dispense with it. Especially is it valuable from its utter distinctiveness, and its possibilities as a parent of new sorts. We still have the fruit, though the black raspberry season is over, and fully six weeks from our first ripe strawberries.

And now of grapes. Again, and for the hundredth time, the writer begs to ask why not every true friend of the cause take pains to find out the very hardest, best Northern natives, and introduce them, for the purpose of rearing new iron-sided varieties for our mighty vineyard interest. Who but feels that, could we but get up the right varieties, the victory were two-thirds won.

And now, with such perfectly hardy natives in Minnesota, Wisconsin, Canada, northern New York, New England, why work so persistently with comparatively half hardy sorts, as Catawba, Diana, Isabella. Is it not too much like child's play? To-day, there is not a known acknowledged staple variety, that fills the bill on the all-important question of hardihood in foliage over summer, and wood over winter, leaving all other characteristics out of the question. The Concord is nearest perfect in these particulars, and probably in foliage all that reasonably can be hoped for; but, in vine, it might be much more hardy over winter, besides other needed qualifications. The thing is here: the great need of the country when this grape fever first came up has been largely overlooked. Think of the thousands of cultivated varieties in Europe, and of the ten thousand native American varieties, and then tell me if the present meagre list of our cultivated sorts here is not discreditable?

There should have been a thousand fierce growers of, and experimenters with new seedlings and combinations. Why not? And then, in the crowd, we should have found scores of choice, or at least promising varieties. Why not begin this year?

Bloomington, Ill. F. K. PHOENIX.

Messrs. Editors:

Your sensible and good-natured critic, Reuben, in the May and July numbers of the *Horticulturist*, takes the position that gothic or gable houses are out of place, except in hilly regions, like the highlands along the Hudson River, and similar localities. I know that he is by no means alone in this opinion. Now, without any pretence on my part to architectural knowledge, except an amateur's taste, I would like to ask, is this so? Can we have on our dead level plains, where Nature has but little to imitate, no variety, but monotonous, square, low-roofed houses, making everything a duller, deadlier level still. Or perhaps on level land, to imitate Nature would be obliged to make the roof concave, like the concave heavens above us. Some one in Brooklyn, E.D., did carry out this idea, only a little more so; and I should like Reuben to take a stroll thereto some day, and see the effect of this concave, architectural, Nature-imitated building. It would, I think, create a doubt in any one's mind of taking universal Nature as a guide in every specialty, for Nature, physically as well as morally, has some awful gaps.

But if the principle alluded to above is true, that gable houses on level lands are not in keeping with correct principles of taste, how is it that the Romanesque and Gothic rural cottages of England are so much praised by travelers, and recommended by leading architects, such as Downing? And how is it that cathedrals in the old world, and their imitations in this, with their extreme style of arches, peaks, and gables, though, in most instances, built on the dead level of streets—how is it that they are so much praised, without the least objection to the fact that they are not surrounded by abrupt hills, or projecting cliffs? Is this taste, though always so much lauded, still a false taste?

My object, Messrs. Editors, is not to criticise your good critic, but as a learner seeking information.

P. D. O.

HORTICULTURAL NOTES FROM MAINE.—

Messrs. Editors.—Having room in this envelope to send an additional note, I will jot a few items of horticultural matters in this extreme of Uncle Sam's dominions.—Though this is not what is considered a fruit-growing region, yet we manage to grow some varieties in sufficient quantities for home use, and quite a surplus for exportation. This is the case with the apple, which is the leading, and perhaps I may say, the principal fruit grown here. The Baldwin is the leading variety grown, and we can annually produce specimens that will equal any grown in other portions of the States. They have been selling this spring at \$2.50 per bushel. The prospects for a fruit crop this year are quite good, the apple orchards being just in blossom.—We have two insect enemies of the apple, which threaten to destroy our orchards, and put a stop to apple-growing. They are the borer (*Saperda biocellata*), and the tent caterpillar (*Clisiocampa americana*). The latter has been very destructive the past three years, and their numbers seem to be increasing, in spite of the war waged against them on every side.

Cherry and plum raising has been to a great extent abandoned, because of the black-knot, which has overrun and killed our trees. Grape growing is as yet in its infancy here, but has already been quite a success. The varieties which seem the best adapted to our soil and climate are the Delaware, Concord, and Hartford Prolific, bearing well, ripening perfectly, hardy and free from disease. Most of the small fruits can be grown to perfection. Currants are a sure and heavy crop; and the southern part of the State is peculiarly adapted to gooseberry-growing. Houghton's Seedling is free from mildew. Strawberries, raspberries, and blackberries plenty in the natural state, and grow finely under cultivation. Considerable attention has been paid towards growing cranberries the past few years, with a good degree of success.

If you find any items of interest in these

hurried lines, you are at liberty to "cut, and come again."

Your's truly,

GEO. E. BRACKETT.

BELFAST, Maine, June 10, 1866.

HORTICULTURAL PAPERS & MAGAZINES IN GERMANY.—There are published in Germany about one dozen horticultural papers. One of them is published quarterly, the others are weeklies and monthlies. The subscription price is from one to five and one-third thalers. Four or five of them are illustrated. Advertisements pay from one to two groschens a line. Besides these advertisements, the publishers charge for enclosing catalogues, &c., from one and a-half to four thalers. Of one of the papers are printed only 300 copies ; of another 400. The most read weekly has 3,500 subscribers, and the most read monthly 4,500.

This last-named seems to be the most favored. It is published in Stuttgart for two thalers (\$2.20 in gold in New York). It is illustrated, having two fine plates every month, one of them colored. The colored plates represent the latest varieties of flowers, *e. g.*, new double fuschias, a new variety of ten-week stocks (blood red), &c. Gardeners and florists generally send the original pictures of their new varieties, painted in oil by artists, to the publisher, who gets them cut and printed without cost to the florists. Besides, every subscriber receives a splendid colored plate of flowers as premium.

Horticultural advertisements are published gratis in this magazine, only publishers of books must pay for advertisements which are printed on the cover. Its size is about that of the HORTICULTURIST, thirty-two pages, advertisements included.

AGELLULUS.

WAYNESVILLE, Ohio, June 18, 1866.

Messrs. EDITORS:

You enquire in June number of the HORTICULTURIST about Wharton's Early Pear. took a stroll a few days since to take a look at the original tree. It stands in a

stiff sod, and is on the decline, but might be restored with the proper course; it is about fifteen feet high. You will find descriptions of the fruit and tree in Elliott's fourth edition, with the exception that he does not mention that the fruit-spurs are thorny while young. I have lived adjoining the Wharton estate twenty-five years, and have not seen the pear spoken of to my knowledge.

There are several other seedling pear trees standing in the Wharton nurseries—sacred monuments to his memory, some of which are quite promising, especially one, which resembles F. Beauty for size, is a little astringent until fully ripe, then becomes very good; is a heavy bearer every other year; ripe in October.

While talking of pears, I will give you the size of a pear tree I am in possession of. Its trunk measures, six feet from the ground, six feet four inches in circumference; its branches extend sixty feet in diameter. It was planted fifty years ago by Thomas Thomas, an old pioneer. A market man informed me he had one season picked 124 bushels of pears from it. The fruit I have not seen described in the books, and will give it :

Ovate, pyriform. Color, light yellow at maturity, with numerous russet dots. Stem, long, curved, set in a very slight depression. Calyx, small, open. Basin, rather deep.—Seeds, long, ovate, black. Flesh, white, melting, juicy, sweet aromatic. September.

Very respectfully,

C. L. JANNEY.

NEAR DOVER, DEL., June 6, 1866.
EDITORS HORTICULTURIST:—

Strawberries are nearly a failure in this State; those that depended on small beds in their gardens, are without their usual supply. I am picking to-day, and may get four or five hundred quarts. With a full crop it ought to be three thousand; this, I think, will be my big day. The first blossoms that made their appearance were blind. I thought these had got a start from the few days of very warm weather in

the fore part of March. The next blossoms were right, and I had hopes of a pretty good crop; but they grew beautifully less every day. I noticed a few rods square of Wilson's, that I thought were the likeliest I had ever seen, with berries as large as the end of your finger; the next time I went to look, they were gone. Thinking that I had missed the place, I went again in two or three days, but they were not to be found. This was new land, and as nice as could be found anywhere. It was in good order, and when done setting, it cost me a hundred dollars per acre. When I found out that I had failed in a crop, I laid the blame on the land, and felt like the old fellow in Shakespeare, who had lost his rum bottle. "I care more about the disgrace and dishonor, than the loss."

The last of February I trimmed my grapes, and found them at that time to all appearance injured, and about that time I cut off and grafted thirteen worthless vines, with the Iona. All of the grafts have put out and look as if they would do well. These were well covered up with stable manure. The vines that these grafts were taken from nearly died after that time. One, a two year Allen's, was killed to the ground. Three or four Conards on the west side of the house are the only prospect I have for grapes. The Russell and Buffalo strawberries are not worth going over.

Yours, respectfully,
P. HAMM.

WILSON'S EARLY BLACKBERRY. — We have again received fruit of this new blackberry (noticed August, 1865,) from Charles & J. S. Collins, Morristown, N. J.

The berries are ripe, and in fine condition, July 16. It is very prolific, and of good size and flavor; but its chief merit consists in its time of ripening, which is about a week or ten days in advance of the New Rochelle, thus prolonging the blackberry season. We understand that it is being extensively planted for market purposes.

AMERICAN POMOLOGICAL SOCIETY. — Our readers will remember that the Eleventh Annual Session of this Society will be held at Mercantile Library Hall, St. Louis, Mo., commencing on Tuesday, September 4, 1866, at 11 A. M., and continuing for several days.

Packages of fruit, with the name of the contributor, may be addressed as follows: "American Pomological Society, care of C. M. Saxton, corner of Fifth and Walnut Streets, St. Louis, Mo."

BOOKS RECEIVED.

MY VINEYARD AT LAKE VIEW. — This is a new work, lately issued from the press of Messrs. O. Judd & Co., New York. It is written in a pleasant, attractive style, and purports to give the author's experience in grape culture in northern Ohio. The author has not seen fit to give his name to the public, which fact will raise doubts in the minds of his readers as to the reality of Lake View, and of his practical experiments there carried on.

While we find nothing new upon the culture of the grape, the dry details of other works are here presented in such a readable form, as to create a lasting impression upon the mind of the reader. Price, \$1 25.

PRACTICAL & SCIENTIFIC FARM-CULTURE, by Charles R. Baker. Lee & Shepard, Boston, Mass. Price, \$1.

This work is chiefly a compilation from the agricultural and horticultural publications of the day. The author has drawn largely from foreign as well as American works, and has given us but little that is new or original.

We have a few volumes of the *Horticulturist* for 1863 and 1864, handsomely bound, which we will mail, post paid, for Three Dollars each. These volumes are now rare and nearly out of print. Back volumes of the *Horticulturist* are always acceptable in payment for new subscriptions.



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The road extends from Dunleith, in the north-western part of the State, to Cairo, in the extreme southern part, with a branch from Centralia, one hundred and thirteen miles north of Cairo, to Chicago, on the shore of Lake Michigan—altogether a length of 704 miles—and the land which is offered for sale is situated upon either side of the track, in no instance at a greater distance than fifteen miles.

State of Illinois.

The rapid development of Illinois, its steady increase in population and wealth, and its capacity to produce cheap food, are matters for wonder and admiration. The United States Commissioner of Agriculture estimates the amounts of the principal crops of 1864, for the whole country, as follows: Indian corn, 320,681,403 bushels; wheat, 160,695,823 bushels; oats, 176,690,064 bushels; of which the farms of Illinois yielded 138,356,135 bushels of Indian corn; 33,371,173 bushels of wheat; and 24,273,751 bushels of oats—in reality more than one-fourth of the corn, more than one-fifth of the wheat, and almost one-seventh of the oats produced in all the United States.

Grain—Stock Raising.

Pre-eminently the first in the list of grain-exporting States, Illinois is also the great cattle State of the Union. Its fertile prairies are well adapted by nature to the raising of cattle, sheep, horses and mules; and in the important interest of pork packing, it is far in advance of every other State. The seeding of these prairie lands to tame grasses for pasture or hay, offers to farmers with capital the most profitable results. The crop of Illinois in 1864 is estimated at 2,160,725 tons, which is more than half a million tons larger than the crop of any other State, excepting only New York.

Inducements to Settlers.

The attention of persons, whose limited means forbid the purchase of a homestead in the older States, is particularly invited to these lands. Within ten years the Illinois Central Railroad Company has sold 1,409,000 acres, to more than 20,000 actual settlers; and during the last year 264,422 acres—a larger aggregate of sales than in any one year since the opening of the road. The farms are sold in tracts of forty or eighty acres, leased to the settler with limited capital, or in larger tracts, as may be required by the capitalist and stock raiser. The soil is of unsurpassed fertility; the climate is healthy; taxes are low; churches and schools are becoming abundant throughout the length and breadth of the State; and communication with all the great markets is made easy through railroads, canals and rivers.

PRICES AND TERMS OF PAYMENT.

The price of lands varies from \$9 to \$15 and upwards per acre, and they are sold on short credit, or for cash. A deduction of ten per cent. from the short credit price is made to those who buy for cash.

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Forty acres at \$10 per acre, on credit; the principal one-quarter cash down—balance one, two and three years, at six per cent. interest, in advance, each year.

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Also a large number of Choice Seedlings, a large number of Cuttings, and a large number of Rooted Plants. All these are from the best nurseries, and are well-grown, and well-kept.

They are to be sent to **Newbern's Seedsmen**, or to any other nurseryman, or to any person who wants them. All these varieties will be sold at their usual price. Prices are now very low, and no better time than the present can be taken.

Every order for Delivery in the Autumn.

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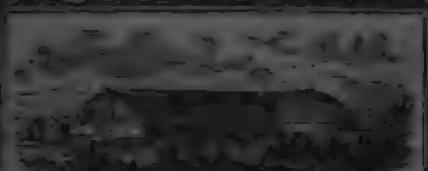
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LAWS OF ASSOCIATION IN ORNAMENTAL GARDENING.

BY A. D. G.

OUR country abounds with persons intent upon learning and practicing the various arts of rural embellishment. They have read of velvet lawns, leafy groves and thickets, groups and masses, vases and statues, and fountains; but they have no definite conception of what they wish to accomplish; much less do they know how to construct the scenes dimly floating in their imaginations. They do not know when to cut down a tree, or where to plant one; where to clear up shrubberies, or where to plant them; where, or when, or how to plant evergreens or deciduous trees, singly or in groups.

It is noticeable, too, with most writers on this subject, that it is made the highest end of art to produce a scene which shall be simply beautiful, or picturesque, or grand and imposing. The appeal is to the eye rather than to the mind. But may we not proceed a step further? May we not so plan and plant our grounds as both to awaken and to express some of the highest and best sentiments of the soul? Each

scene will of course demand its own expression. It may be dignity, or grandeur, grace, cheerfulness, tranquility, security. The Creator, it is believed, has given to each vegetable structure its own expression, and these, variously combined, may be used to typify some of the noblest ideas and purest emotions. And the artist who knows how to interpret nature can set about the creation of new scenes, confident of success in his work. He will not be satisfied with simply adorning his grounds with arbors, statues, grottoes, and other works of art, or with planting trees, shrubs and gay flowers; he will desire to go beyond the senses, and to address the memory and imagination, the poetical and moral sentiments. If one tree is really beautiful, he will plant it for the sake of its beauty. If another, though lacking in beauty, yet appeals in some way to man's higher nature, he will plant it for that reason. A *quasi* amateur once said he would not plant a certain tree in his grounds "because it was not *fashionable*." The thoughtful gardener will not inquire

what is fashionable, but what is truly fit and beautiful, and what is interesting from its expression and for the associations connected with it.

This principle of association in its relation to ornamental gardening deserves more thought than it is wont to receive; and we wish now to dwell a short time upon it. No small share of the interest we feel in all objects, times and places, arises from the operation of this principle. The rusty coins which the antiquarian treasures up, because they bear the image and superscription of ancient kings, and commemorate important events in history, would not be received at the bank. The relics of old Egypt and Assyria, obtained at great expense and stored up in museums with pious care, what are they worth more than the lumber of a thousand garrets? Are the waters of the Jordan and the Tiber better than those of the Chippewa River or the Great Pedee? Of what value is a fragment of Plymouth Rock above any other piece of granite—or a branch from the Charter Oak, or from the trees overhanging Washington's tomb? The chief interest of our national holidays, of our annual State festival, and our various domestic anniversaries, does it not lie in the memories they revive? And the home of our childhood—what makes it the home it is, separating it from all other places on earth, hallowing its soil and endearing its very walls, unless it be this principle of association?

Many trees and plants are interesting for a similar reason. They may or may not possess the element of beauty; yet, if they have become linked with historical facts, or if they symbolize poetical and moral sentiments, or in any way deeply affect the mind and heart, they are worthy of special regard. To illustrate our meaning, let us allude first to the Cedar. This was peculiarly the tree of Palestine, bristling along the ridges of Lebanon, and crowning the hills around the Holy City. The temple and the palace were built of this wood: "All was cedar; there was no stone seen."

It was believed that "God loved it more than any other tree." The Palm-tree has both a sacred and classical importance, having been used from the earliest times as an emblem of integrity, constancy, fruitfulness, patience and victory. So of the Olive-tree: it is associated with the subsidence of the flood, and with important events in the life of the Saviour. It has always been a token of peace.

Unlike those we have just named, the Oak is a tree of all climes. Under this, Abraham spread his tent at Mamre. Under an oak, Joshua set up the tabernacle of Jehovah for divine worship. Throughout all the East, no spot was more desired for a burial-place than the shade of an oak. In Greece, it was

"Jove's own tree,
That held the woods in awful sovereignty."

In England, it has been from the first a national tree, flourishing around her cathedrals and baronial halls, and imparting grandeur to her parks and hunting grounds. Her navy proudly sails in "oaken walls"; her army fights with "hearts of oak." The Elm is not without classical associations. The graceful white elm of this country surpasses all other species in beauty, and has been so universally planted as to have become, with the maple, almost a national tree. It is associated especially with the older towns of New England, with their training fields, their village streets and ancient farm-houses.

Perhaps no plant is more suggestive than the Vine. Originating in Persia, it found its way very early into India, Greece, Sicily, and all the temperate regions of the Old World. One has observed that "the classics seem to have been written under its shade; their pages exhale the sweet odor of its fruit." It is mentioned frequently in the Old and New Testaments, as furnishing a pleasing shade, a healthful fruit, and an invigorating and wholesome beverage. It is often used as a symbol of peace and plenty. Our Saviour has for ever hallowed it by styling himself "THE VINE,"

and by constituting the juice of its clusters a perpetual emblem of his love.

But we need not speak at length of other trees and plants in their mythological or historical relations. Some trees have a marked expression which renders them suggestive, and others have poetical and moral associations which are worthy of notice. Evergreens, as a class, suggest ideas of protection, seclusion, shelter, of smiles amid surrounding gloom, of constancy amid changes, of life amid desolation and death. Deciduous trees are more varied in expression. The maples are comfortable and well-to-do; the white ash is neat and trim, and in the autumn robes itself in royal purple; the elm is gracefully dignified; the Lombardy poplar is all aspiration; the aspen is timidity, trembling at every breeze; the oak is strength and sturdy endurance; the willow is affection, bending over the dust of the departed.

Nor are flowering plants without expression. Where is there gayety and vanity, if not in the tulip and poppy? or purity and modesty, if not in the lily and primrose? or folly and ostentation, if not in the cockscomb and peony? Every eye sees deceit in the monkshood, immortality in the amaranth, hope even in misery in the bachelor's button, industry in broom-corn. The snow-drop and crocus are friends in the storms of adversity; unconscious beauty is in the daisy, ambition in the hollyhock, woman's affection and fidelity in the clinging ivy and honey-suckle, delicacy in the lily of the valley, unchanging love in the myrtle, remembrance in rosemary, domestic virtues in sage, and substantial worth in thyme.

Flowers are the poetry of the vegetable kingdom. They address our most delicate sentiments, and awaken our tenderest emotions. They charm us by their richness of form, color and fragrance. Their very fragility attracts us; it touches our sympathy and makes us love them with almost human affection. If proof were needed of the firm hold which they have gained upon the uni-

versal heart, we might instance the fact that they are used, in one way or another, to adorn all our daily life. They are woven into our carpets, garments, window-hangings, and nearly all domestic fabrics. Flowers are sculptured in marble, carved in wood and ivory, embossed in gold and silver, cast on our stove-patterns, stamped on our wall-papers, engraved in our books, and painted everywhere. Children love them almost instinctively; maidenly beauty delights to twine them in her hair; they adorn the bride for her husband; they cheer the chamber of sickness; they grace the banquet-table, and are fitly strewn upon the grave.

In respect to their moral associations, it may suffice to mention that the pages of Holy Writ abound in floral imagery, symbolizing man's frailty and his resurrection, representing human virtues and God's providential care. They "typify the benign intent of the universe." Springing up, as they do, on all the face of the earth, they speak of the boundlessness of God's love: they show that He is not satisfied with making man's abode simply durable, but would have it a paradise of delight.

Trees and plants have domestic associations also. Not to speak now of fruit-bearing trees and vines, the locust, maple, elm and balsam-fir, the lilac, rose and honeysuckle have been so long planted about every country-house as to form almost an essential part of a rural homestead. Some of the pleasantest recollections of childhood cluster around these familiar objects. But, aside from long established associations, there are others which grow up in one's individual experience, and to which every passing year gives new sacredness and power. When a man sets out to establish a permanent home, the land, timber, bricks and stones are only a certain number of acres and a certain amount of building materials, costing so many dollars. But as soon as he enters upon the construction of his house, and the arrangement of his

grounds, the land and lumber begin to increase in value. The apartments, which he plans with care, seeking to make them attractive to his family and guests, the furniture which he selects for their comfort and pleasure, are all worth more than the materials of which they were made. And every year, as it adds its varied experience to the history of the household, only heightens their value. So too, in arranging his garden and grounds, if he does it with zeal, embodying his own individuality in it, he finds that the object of his labor is the object of his increasing love. Let him but plant a tree with his own hands, he at once becomes attached to it. Let him brace it against the riotous winds, water its thirsty roots, cleanse it of insects, and give it all the care it requires, and no sooner will its roots shoot out and grasp the soil, than his affections will fasten upon it and upon the very earth in which it grows. He will watch its expanding leaves with increasing love,

and every year he will take new delight in its spreading boughs and thickening shade. Other trees added to his collection, from time to time, will add new objects of interest. In planting this, a darling child held it upright, or with his little spade tried to help, but hindered the work, and when all was finished, named it his tree. That was the wife's choice, and in its early growth was nurtured by her tender care. This came from the old homestead, the gift of a venerated father. Yonder shrub was presented by a friend, and this flowering plant was the gift of a beloved sister now walking amid the celestial gardens. How can one live and move among such trees and plants, and not feel that they possess a value beyond price? Each has a history of its own, and is bound up with his history. Nay, each has a life and soul, to which his own heart is linked by the strongest ties.

[Concluded in our next.]

DESIGNS IN RURAL ARCHITECTURE—A COUNTRY SCHOOL-HOUSE.—No. 17.

BY G. E. HARNEY, COLD SPRING, N. Y.

We present at this time a sketch of a country schoolhouse, of suitable size and accommodation for about fifty pupils, of both sexes.

Enough has been already said of the great importance of making such structures comfortable and attractive; of selecting for them the very best situations the district affords; of giving them ample grounds, and carefully beautifying them with trees, and shrubbery, and flowers; and of supplying every improvement for the convenience and benefit of instructor and pupil; and the good effects of such hints may be seen plainly all about us; but there is great room for improvement yet, particularly in districts remote from the larger towns and villages, where the people are mostly, or all, hard-working farmers, who have little time or inclination to study matters of

architectural improvement, and where architecture, as a profession, has hardly, as yet, exerted any special influence. Horticultural and agricultural publications have done a great deal, however, to improve the popular taste; in fact, the whole credit is theirs, for it is to them solely, and to this very magazine—*THE HORTICULTURIST*—principally, that we owe the first awakening; and it will be to their efforts in the future that we shall look for a continuation of these improvements, having a more general circulation, and a more intimate relation with the rural population than other publications.

It is to meet the requirements of such localities that we present this design; and we think it will recommend itself by its simplicity and convenience.

It is a plain building of wood, comprising

a central portion and two wings, one on each side, and lower by three feet. The main building measures twenty-one feet by forty-two, and the wings twelve by seventeen each. The principal schoolroom measures twenty feet by thirty, and is twelve feet high to the spring of the ceiling, and seventeen feet high in the centre of the room, the ceiling for a portion of the way following the slant of the rafters, and the principal rafters and braces projecting out so as to show from below. The walls of this room are wainscotted up to the level of the window-sills—four feet from the floor—with narrow ceiling boards, and above that, together

with the ceiling, are finished off with a rough sand stucco finish.

The wood-work should all be stained, and the walls tinted some soft neutral tint—gray, or cream, or pearl color.

The windows are all sash windows, double hung for purposes of ventilation; and, in addition, there are two ventilating shafts rising from the floor through the attic, and terminating in the ventilator on the ridge of the main roof. These shafts have openings near the floor and ceiling, with arrangements for opening and shutting at will. They are made of smoothly-planed, well-jointed pine boards, and measure each sixteen inches square inside.

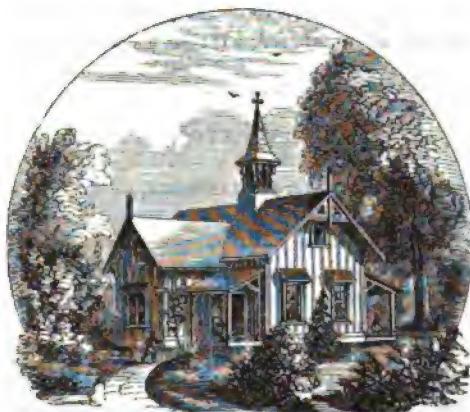


FIG. 103.—*Perspective.*

In order to keep up the circulation, and to supply cool air from outside, a shaft is introduced running along under the floor, and terminating at the platform on which, in winter, the stove, or heating-apparatus, will stand, and from this distributed into the room by numerous small holes in the riser of the platform.

We consider the simplest methods of ventilation the best, and the above will be found both simple and effective. The great desideratum is to provide means for the discharge of a certain quantity of vitiated

air, and to supply its place by the same quantity of pure air, properly warmed in winter. To make the discharge more effective, the stove-pipe may be carried up in connection with one of the shafts, rarifying the air, and making the upward current stronger, but in ordinary cases this will be hardly necessary.

There are two entrances to this house, one for boys and one for girls. Both entries are ten feet square, and are in the main building, opening directly into the schoolroom.

The wing on the right is a class-room, and that on the left is designed for wood and coal, and for a wash-room, if such be considered desirable.

The entries, instead of having hooks for

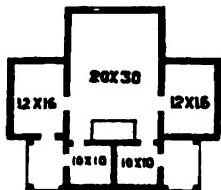


FIG. 104.—*Ground Plan.*

clothing, have each a sufficient number of boxes, or shelves divided up into compartments of about two cubic feet each, ranged along the sides, and carried up in three or four tiers. These boxes are all numbered,

and each scholar has one for his exclusive use; being provided with a duplicate number as a voucher, there is no opportunity for contention as to ownership, no losing or abusing of hats and shawls, and dinner-pail. The method has been tried, and found much preferable to the old arrangements of hooks, particularly for the smaller scholars, and those coming from a distance who bring their dinners.

The two porticos measure eight feet by ten; the windows have all broad hoods and brackets; the gables have heavy finials, and the ridge is surmounted by a large ventilator. The roofs are covered with slates, and the walls are painted two or three coats of oil paint.

The cost, at present prices of labor and materials, would be about \$2,500.

GRAPES AT AVON POINT.

BY M. H. LEWIS, SANDUSKY, OHIO.

THE map of Ohio indicates some irregularity in the south shore of Lake Erie, along the northern part of Lorain County. Here, twelve miles north of Elyria and fifteen west of Cleveland, a wide reach of land, known as Avon Point, because of its underlying shale formation, has most successfully resisted "the wear and tear of wind and tide."

In shape it resembles a trapezoid. The shorter of its parallel bases, three miles in length and distant about three miles from the main land, is the head-shore line.

Having just returned from a delightful visit at the Point with E. Boyd, Esq., whose summer residence is immediately upon the shore at the farthest point lakeward in all the region, I propose a simple statement of what has been done there in behalf of the "blessed grapes."

Three years or more since, Mr. Boyd had his attention directed to grape culture, and to this locality as especially adapted to such

an enterprise. Most of the land along Avon Point, as it abuts upon the water, forms an embankment of ten and oftentimes twenty feet in height. The soil is a heavy clay resting upon a shale formation five or six feet below. In the shale, the salts sulphuret of iron and sulphate of alumina seem to abound. The presence of iron is sometimes manifest by the red tinges in the clay, though generally the latter is of a light color. The surface is slightly rolling, and at frequent intervals furrowed out by brooklets from the interior, making their way on the shale with most of the surface water down to the lake. The aspect of the country seems to be south and south-east. Having satisfied himself that the lacustine influences, soil and lay of the land were just such as to please even the coy and fastidious Catawba, he bought largely of the farmers, who were all unsuspecting of the wealth of unassimilated wine pabulum, ground up and pushed thither in the long ago of the

glacial period and everywhere contemned as "white-bean" soil. Think of it, vineyardists of Sandusky and the Islands, hundreds of acres of the best Catawba land purchased within a few years at \$40 per acre!

He interested other parties at Detroit, Columbus, and especially A. W. Kellogg, Esq., of the well-known firm of Kiggins and Kellogg, New York city, and they have now secured in all many hundred acres in excellent locations. Ten acres of Catawbas planted three years ago are just coming into bearing. The wood is stocky and short-jointed, and the foliage is particularly remarkable for its deep green color—the leaves looking firm and healthful almost as Concord.

The vines seem to have been faithful in setting fruit plentifully, but here as in most places on the south shore, to the west of Avon at least, the clusters are imperfect from a heavy fall of rain just at blooming times, which prevented complete fertilization. His vineyard is trellised with posts and wires. By the way, Mr. Boyd has adopted a novel mode of setting posts. He has a pile-driver which four or five men can easily manage. With this he is enabled to drive posts into the earth many times as fast and much more firmly than the same working force could put them in by the ordinary method.

Mr. Boyd is eminently a practical man, not a horticulturist by profession, not much given to book-farming, though he does not by any means ignore the vast amount of valuable information in the horticultural literature of the day, but has traveled much, has visited repeatedly all the great centres of grape growing East and West, and always with his "eyes and ears wide open." Hence he has so far been quite successful. Early in the fall of 1865, he secured over 50,000 selected Catawba cutting roots and had them stored in sand in a dry cellar until spring planting. He bought at \$25 per thousand, and thereby made a clear gain, as it proved, of more

than \$1,200; for in March following the same class of roots were very scarce at \$50 per thousand. Early, too, in the fall, he subsoiled his ground, using a subsoil stirer, to a depth of sixteen inches, and as he could not get it underdrained, he networked it with surface ditches. In the spring of 1866, after the thorough work of that most silent and indefatigable of pulverizers, Jack Frost he cross-ploughed and subsoiled again. He had the foresight also to engage a superior vigneron to superintend the whole grape interest—an americanized German of many years' experience on Kelly's Island, and he was every way wisely and fully ready for the stupendous task of planting at one time over 60 acres of vineyard.

The advancing summer proves the undertaking a complete success. Not one vine in 200 on an average is lost. The growth is healthful and vigorous. The cultivation has been admirable, scarcely a weed to be seen, and the soil, which usually bakes to stony hardness and cracks in great chinks, everywhere about the young vines seems to be mellow to a good depth. The rows are eight feet apart, straight as human hand can make them, and the vines seven feet apart in the row. This first year he can cultivate both ways. The posts and wires will run north and south. This autumn twenty or thirty more acres will be prepared in like manner—a portion to be set with roots at once, and the remainder the succeeding spring. Four or five Englishmen, adepts in their calling, are hard at work putting in three feet underdrains at twenty and twenty-five feet distances through the young vineyards of this last spring. Two inch circular tile are used and first covered with hay or straw before the drains are filled up. In fine, Mr. Boyd and his friends have made a great venture, but their well-founded confidence in their locality and soil, their *grande* confidence, as the Frenchman termed it, in American grape culture, their liberal use of capital, and intelligent employment of all the means to ensure success which recent experience has anywhere es-

tailed, make them sanguine of the final result and certainly entitle them to the sympathy and even the gratitude of all their co-workers in this broad field of industry.

I might add that they command fine sites for wine-cellars, one of which is already projected, and that they contemplate also building a tug to facilitate a heavy prospective trade with Cleveland.

Mr. Boyd's agricultural neighbors have some time since rubbed their eyes wide open and are more than slightly affected with the grape fever; for there are frequent young vineyards of five or ten acres, and the price of land has steadily advanced from \$40 per acre to \$200 and even \$225, has been paid for unincumbered clay.

AMONG THE RASPBERRIES.

BY F. R. ELLIOTT, CLEVELAND, OHIO.

We spent a day or two during the raspberry season with a friend of ours, who has a choice collection of sorts, mostly in bearing. We found him, however, pretty much decided upon liking two or three sorts, and disposed to throw all others aside. Nevertheless, we went quietly to work, tasting, and examining, and comparing; visited a dozen or more places, and got their opinions. Of the white or yellow sorts, we found nothing equal to Brinckle's Orange, the fruit

yet good canes were then bearing fine fruit—not equal, of course, to those under a higher state of cultivation, but yet such as to show that the variety could bear grief.

The next best of the whites that we met with was Colonel Wilder; not as high fa-

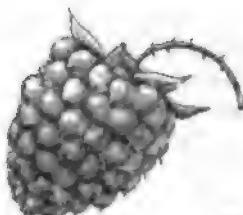


FIG. 105.—*Brinckle's Orange.*



FIG. 106.—*Col. Wilder.*

of which was abundant upon the canes, of large size, rather long, a rich golden yellow when fully ripe, and of the richest flavor. The canes of this in our friend's grounds were regularly laid down, and covered on approach of winter. His soil is of a deep, rich, sandy loam, and thoroughly worked. We examined this sort on clay grounds, where we found it doing well; and here, as well as in a garden of light sandy soil, it had received no protection the past winter, and but poor cultivation this Spring; and

vored as Orange, a lighter color, but if anything the canes a little more hardy. One cultivator of it declared that he could get a good crop of it yearly, without any covering or winter protection. We doubt it.

Among the red sorts, of old kinds, we found the Hornet, literally loaded with fruit; of a dark, rich red; large size; fine flavor; pretty firm; more so than most of the red; trusses with fifty to seventy-five berries; a little later in maturing than some other sorts, but universally regarded as

among the, or one of the best. Most of its growers, we also found, had been in the practice of leaving it exposed to the winter;



FIG. 107.—*Hornet.*

but where they had given it a little protection, we think the time and labor were more than twice repaid in the crop.

FASTOLFF we did not find as favorably spoken of as of olden time. One cultivator, however, regarded it yet among his best. Canes strong and stocky; partially hardy. Fruit large, abundant, tolerably firm; not sufficiently so for long carriage, however.

FRANCONIA, like the last named, we found with only a few friends, and they among the amateurs, where large and fine fruit, without much to regard to cost, was a point to gain.

KIRTLAND, for so we must name the sort now grown under this name, although the gentleman whose name it bears lays no

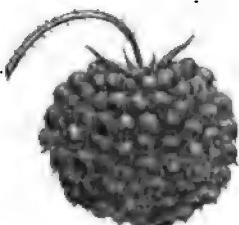


FIG. 108.—*Kirtland.*

claim to having grown it. The canes are perfectly hardy; a light yellow; free from spines. The fruit nearly or quite round;

bright red; pretty firm; large grains; fruit sets abundantly, and matures well; it is not of the highest flavor nor the largest size, but, with many who have grown it in quantity, proves very profitable.

We learn, also, that the little original patch, from which Doctor Kirtland once gave away plants, now propagated under his name, yet continues in fruitful bearing, and has never had a hoe or manure applied to it.

THE ALLEN, or what is known by the market gardeners about Cleveland, Ohio, as the Red Antwerp, we found in many hands; and everywhere that they had eradicated the barren plants, it proved a profitable sort. One grower from a little piece of three rows, four rods long each, gathered and sold this year to the amount of over forty-five dollars. Where the Hornet or Kirtland can be got, however, we think the Allen will lose cast.

RED ANTWERP.—This old sort, where it had been protected last winter, we found giving fine crops of a delicious flavored fruit. It is a capital berry; but if those of

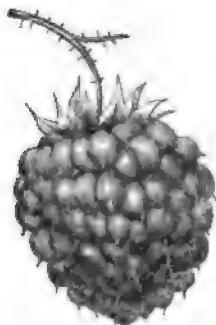


FIG. 109.—*Red Antwerp.*

hardier canes can be had, our people will not take the trouble to lay down any particular sort.

KNEVITT'S GIANT.—In only one place did we find this sort, but here the owner thought very highly of it. The canes are more hardy than any other foreign sort, except Hornet, while the fruit is firm, and of

excellent flavor. We think growers should pay more attention to this variety.

Of VICE-PRESIDENT FRENCH, CUSHING, and others of the Brinckle origin, we found the two we have first named and figured, to have so much surpassed the others in good qualities, that they were only grown by a few amateurs.

Of new sorts, the Duhring and Clark, we have not seen in fruit. Both are represented as extra fine; another year, we hope to see their fruit.

PHILADELPHIA is very much like Kirtland, and our description would answer for both.

NAOMI we saw in fruit in two or three places, bearing abundantly: a large, fine, well-flavored fruit, and the canes, thus far,

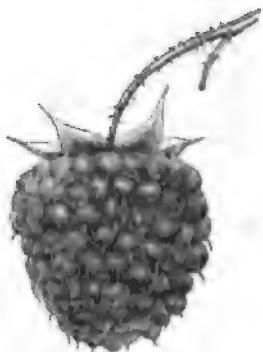


FIG. 110.—*Naomi.*

having proved perfectly hardy. Should it again prove hardy, as heretofore, it will take a first rank among raspberries for general cultivation.

Mrs. Wood is another new sort that we saw. It is not yet offered for sale, nor has it been fully described. Its habit of growth is between that of the Antwerp class and the Black Cap, and is apparently a hybrid. The wood is of a dark bluish shade; canes very strong, with many lateral branches, on which the fruit sets abundantly.

The fruit is of a dark purplish red; nearly globular; double the size of Black Cap; firm, and with a fine high flavor. We hope to have a full description and illustration of it for a future number.

CATAWISSA—This old double-bearing sort we have found to have stood last winter more than usually well. In some places it was the only sort this spring that retained perfect live canes. In good grounds it gives an early crop, and afterward a second crop; but to be most profitable, we are told, the canes should all be mowed off in the spring, and thus make it an autumn-bearing variety, rather than twice bearing.

The old Black Cap, as a general thing, has been superseded by the Doolittle Black Cap; and this, where the soil was deep and rich, gave enormous and profitable crops—For many sections, and for deep, loamy, rich soils, this is undoubtedly one of the best hardy kinds in cultivation.

Of other old sorts, such as Rivers' Monthly, Ohio Everbearing, &c., &c., we learned nothing new, most growers confining themselves to well-known kinds; while at the same time they are testing on a small scale the new varieties.

PLAN FOR LAYING OUT A TEN-ACRE LOT FOR SUBURBAN OCCUPATION.

BY E. FERRAND, DETROIT.

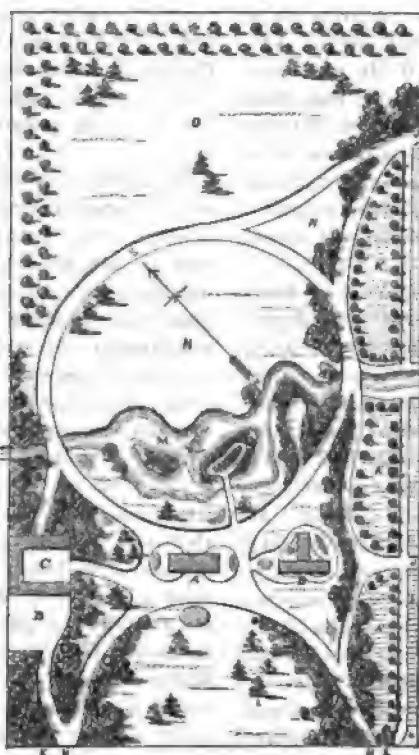
This place has two main entrances with well-shaded drives. The lodges for the gardeners command the gates. There is an immediate access from one of those cottages to the hot beds and garden which is

exposed to the full sun. The sight of this vegetable garden is entirely hidden by a belt of ornamental planting. Around the green-house and graperies are flower beds and stumps, with a nice walk around.

Rhododendrons and Kalmias can be planted on the northern and other shaded sides of the dwelling. The access is very easy to the stables and other out-buildings, with two yards and a direct access to the street. The river and lake occupy about $\frac{1}{2}$ acre. There are two islands, one of which is connected to the garden by a small bridge.

The space O can be cultivated into fruits of any kind or put in grass.

It has been my aim to make this a handsome place with but few roads. In fact, a simple glance at the drawing will tell more about the disposition of this place than any explanation.

FIG. 111.—*Plan.*

REFERENCES.

- Dwelling.
- Greenhouses and grapevines.
- Stable, barn and interior yard.
- Yard.
- and F—Gardeners' houses.
- Principal entrances.
- J—Entrances.
- K—Vegetable garden.
- L—Hot beds.
- M—River, lake and islands.
- N—Meadow.
- O—Fields, with two rows of apple-trees.

THE DELPHINIUMS.

BY F. PARKMAN, JAMAICA PLAINS, MASS.

IT is now a number of years since general attention was drawn to this fine family of hardy perennials, by the introduction of *Delphinium Formosum*. Other beautiful species and varieties had already been known, but *D. Formosum* was at once so easy of culture, so large, and so vivid in color, that it made an impression never before equalled by any of its kindred. A variety closely related to it, *D. Hendersoni*, had been introduced before it; but, unlike *Formosum*, it does not bear seed, and must be increased by the tedious process of dividing the root. For this reason, though more delicate in color, and fully equal in every point of beauty, it did not become generally known.

D. Formosum not only bears seed freely, but the seed "comes true," the offspring closely resembling the parent. Now and then one observes some diversity. Thus: in some cases the eye is deeply shaded, and in others it is pure white. An English nurseryman, by carefully selecting and isolating his seedlings through a succession of seasons, has succeeded in "fixing" the white-eyed variety, so that seed from it will commonly produce the same again. He has given his new variety, which is merely an improved *formosum*, the name of *Delphinium bicolor Grandiflorum*. We have not yet tested it sufficiently to satisfy ourselves that it deserves this formidable christening. The original *D. formosum* is an improved variety of a Siberian species, *D. cheilanthes*, which is also the ancestor of *D. Hendersoni* and *D. nivale*, which very much resemble each other.

Within a year or two, another variety has been introduced, very distinct, and, without doubt, an acquisition. It has been named *Delphinium formosum caeruleum*, and is, in fact, *formosum* with a different shade of color. While the original variety is of a deep metallic blue, the one in question is of a delicate sky blue, and it rarely fails to

come true from seed. The flowers of both are very large. When grown in a rich loam, mixed with peat, of which they are very fond, we have seen them nearly two inches in width. These were flowers of young seedlings; those of the old plants are never so large.

Delphinium formosum has one serious defect. This is a kind of blight which attacks the flowers, begins by blotching them with blackish purple, and often ends by crumpling the whole flower-spike into an unsightly knot.

Delphinium sinense (the Chinese larkspur) and its varieties form another group quite distinct from the above. Its growth is more slender, its leaves finely cut, approaching the annual larkspurs; and the whole plant, though less robust, is more delicate and graceful. It grows two feet or more in height, but there are dwarf varieties which sometimes do not exceed a foot. In color, it varies from an intense metallic blue to white. There are bright sky-blue varieties whose tints are almost unrivalled in this way. There are also varieties of a purplish slate color. Some are double and semi-double. The bloom is very profuse, and lasts a long time. Where masses of blue are wanted in the garden, nothing can better answer the purpose. It will bloom the first year from seed, as will also *D. formosum*, and it is entirely free from the defect to which the latter is subject. After two or three years it commonly dies out, unless the root is divided; but it is perfectly hardy, and like *formosum*, defies the severest winter. The ancestors of both were natives of Siberia, Tartary, and Northern China. *D. Grandiflorum* is a kindred species, also a native of Siberia, and scarcely distinguishable from *sinense*.

We come now to a third section of the genus *Delphinium*—that of the erect robust species, of which the old Bee Larkspur may be taken as the type. This section includes

many species more or less distinct, and varieties past numbering. As most of the species hybridize very readily, and as many that are called species are not to be distinguished the one from the other, any attempt at defining them all would be a failure, but the general characteristics of the entire section are very distinct. To our thinking, the position of the Delphinium family in the world of floriculture must mainly depend on this portion of it. In hardiness, in permanency, and in freedom from disease, this section is unequalled. Its tall, erect spikes of bloom are often of the most perfect symmetry, and the flowers may be developed into the greatest beauty, both of form and color. The choice varieties of it are admirable for massing on the lawn, or planting in the middle and back of the border.

Its varieties of color are very great.—The old Bee Larkspur is of a deep blue, with a black eye, covered with short hairs, and looking like a bee nestled in the centre of the flower. It is a tall, rank-growing plant, of little value in itself, but capable of great improvement by hybridization and selection of seedlings. Next, we have a deep blue variety, with the eye pure white; then a light blue, with an eye of vivid black; then a light blue with a white eye, and a light blue with a grey eye. We have seen these last quite as large as *D. formosum*, and far surpassing it in the symmetry of their flower-spikes. Among double varieties, there are some of a deep metallic blue, others of a pure sky-blue, and others of a sky-blue, tinged with pearl and lilac. Occasionally, the central petals are striped with red and white, and they are frequently edged with a black line, which, to our thinking, is not an improvement. Many of the double varieties are good seed-bearers.

As we have raised many thousands of seedling Delphiniums within the last few years, it may be of some interest to note here some of the "sports" to which they are liable. We have frequently known a

Delphinium, with an eye white and perfectly smooth, to produce a seedling with the eye black and hairy, like the old Bee Larkspur; and the offspring of this again sometimes sport back to the original white. Often a deep blue flower produces a light blue offspring, and vice versa, though the majority of seedlings approach the color of the parent. Some double flowers produce a considerable proportion of double offspring; while others, equally double, result almost exclusively in single flowers. We have frequently known the offspring of one plant to differ more from each other than some of those which are described by botanists as distinct species. We have now in bloom a curious example of a sport. It was raised from the seed of a double light-blue variety. The flowers are double, smaller than in the parent, and nearly pure white—the only instance we have ever seen of that color in this section of the Delphiniums. The variety bears seed, though not very freely, and we hope, ultimately, to develop something of value from it.

Now as to hybridizing. The varieties of the Bee Larkspur section hybridize freely with the section of *formosum*, producing flowers combining the characteristics of the parents, more upright and robust in growth than *formosum*; nearly as large; often quite as vivid in color; and, as far as we have observed, quite free from blight. We have never yet succeeded in hybridizing the Bee Larkspur with *sincense*; but where art has failed Nature seems to have done the work, for we have several times observed in beds of seedlings plants which, in their habit and bloom, show strong indications of being hybrids of these species. We have several of them now in bloom. In habit of growth, they approach the Bee Larkspurs, but the flower closely resembles the Chinese (*sincense*). They never bear seed, which affords another presumption that they are hybrids.

In this connection, we will mention a disaster which befell us two winters ago.—From a great number of seedlings, we had

selected about thirty which seemed worthy of names; and as the ground where they stood was to be dug up in the autumn, we placed them all in a frame for the winter. The precaution proved their ruin, for the mice got in, and devoured all but six. We are now at work to repair the mischief, and

have many hundreds of seedlings which will soon be in flower. The family of the Delphiniums seems capable of a development greater than it has yet received, and we look with confidence for good results.

We have not yet done with this subject, and shall have more to say hereafter.

GRAPE MILDEW VERSUS THE ESSENTIAL OILS.

BY VITICOLA.

In the *Horticulturist* for June 1864, "Horticola" publishes several extracts from a letter of M. Neubert, a celebrated vine grower of Saxony, whom *Horticola* endorses as a "scientific chemist." Neubert advises the use of a solution or emulsion of essential oils (lavender and rosemary) in water impregnated with salt and saltpetre, as a remedy, or rather as a prophylactic for mildew on the grape vine. Neubert being a practical man, and his directions being founded, on his own experience, his recommendations are worthy of a trial, and should not be lightly treated unless the objections to them are obvious and well founded.

In a recent work upon Grape Culture, by W. C. Strong, these directions of M. Neubert are quoted with the following remarks: "He gives no reason for his solution, and we are at a loss to comprehend the benefits of rosemary and lavender. The salt and saltpetre are in such homeopathic quantities, that we cannot understand how so practical and skilful a cultivator as M. Neubert can attach so much value to it. The early and frequent dustings with sulphur must be the secret of his success.

We account for the efficiency of sulphur from the known effects of sulphurous acid gas upon vegetable and animal life. When diluted with a large proportion of atmospheric air, it is still so acrid as to produce a sense of suffocation and violent coughing. Every one has experienced the suffocating odor of friction matches. Flour of sulphur

is insoluble in water, and decomposes slowly by combining with oxygen, forming sulphurous acid in the proportion of one part sulphur and two parts oxygen."

Upon reading the passage the question promptly occurred to me: Are these objections to M. Neubert's recipe well grounded? If so, there is no use in going to the expense and trouble of trying it. What light does chemistry and vegetable physiology throw upon the subject?

It is unnecessary to remind every reader of horticultural literature of the widely different circumstances under which different classes of plants flourish. Seaweeds grow in brine of such a strength as would prove instantly fatal to land plants; and even in strong solutions of the most acrid chemical salts (sulphate of copper) certain species have been known to thrive.

Now it has long been known that amidst these peculiarities of vegetable growth one of the most marked is the fatal effect of essential oils upon most plants of a fungoid character. Hence the ink manufacturer puts a few cloves in his ink to keep off mould while aromatic seeds of all kinds are not subject to mould and their vicinity prevents moulding in others with which they are packed.

In an elaborate article on this subject in the *Edinburg Philosophical Journal*, vol. 8, page 34, Dr. MacCulloch remarks:—"It is a remarkable confirmation of this circumstance, that Russian leather, which is perfumed with the tar of the birch tree,

is not subject to mouldiness, as must be known to all who possess books thus bound. They even prevent it from taking place in those books bound in calf near which they happen to lie.

This fact is particularly well known to Russian merchants, as they suffer bales of this article to lie in the London docks in the most careless manner, for a great length of time, knowing well that they can sustain no injury of this nature from dampness, whereas common curried leather requires to be opened cleaned and ventilated. Collectors of books will not be sorry to learn, that a few drops of any perfumed oil will ensure their libraries from this pest."

These facts are well known and they seem to me to offer a full explanation of the beneficial effects of essential oils in warding off attacks of mildew.

Salt and saltpetre are equally well known as powerful antiseptics. At first sight I should feel inclined to use stronger solutions 1 oz. of salt in 400 of water,

but I would first try the proportions recommended by M. Neubert. His directions are probably founded on experiment.

While upon this subject allow me to say a few words in regard to the explanation given above of the action of sulphur upon mildew. Sulphur when exposed to the air at *ordinary temperatures* does not combine with oxygen and form sulphurous acid gas. This is a fact known to all chemists. It is universally regarded by chemists as an element and we have no evidence that it ever "decomposes." But it volatilizes slowly at ordinary temperatures and the higher the temperature the faster does it sublime. It is also soluble to some extent in oils and wax, and may possibly form a combination with some portions of the leaf. It probably acts as a specific poison to the fungus, and its properties, as noted above, lead us to appreciate the directions—apply it only on dry hot days.

EARLY FALL TRANSPLANTING.

It has long been a commonly received opinion that all deciduous trees should have one good hard frost exposure, before being dug and transplanted in the fall. That such frost assists in hastening maturity of the tree, we acknowledge; but that it is necessary to await frost and the falling of the foliage therefrom, before transplanting, we do not believe. The leaves have their part to perform, grow their growth, perform their appointed duty, and gradually fall to the ground. This falling of the leaves takes place much earlier in the season with some varieties of trees than with others. The cultivated sweet cherry commencing to drop more or less of its leaves in July, and mature nearly all of them early in September, while the Mahaleb does not mature much of its foliage until in August, and rarely drops any of it until the middle

of September. The gooseberry and currant drop nearly all the foliage on old wood in August, and much of that on new wood early in September. The pear and apple rarely make any additional extent of growth after the middle of August, and most of their foliage is mature and ready to drop by the twentieth of September. The ash, birch, and many other forest trees have their main leaves all mature by the above time.

Looking at this we some fifteen years ago commenced planting out one or more of a sort of tree and plant early in the season, and continued our experiments until within the past two years, we have planted our cherries, pears and apples, as early as the 10th of September, and our currants and gooseberries the first week of that month, and have rarely lost a tree or

plant. We dig and plant in the usual manner, with or without water, as may be, but we make our shortening in pruning, either before the plant is dug, or as soon as it is out of the ground. The pruning, of course, takes off all the young and immature wood, and the ground being warm, the roots form anew without delay. One tree we examined last fall had made new roots over an inch long in two weeks from the time of planting. Lindley's Theory of Horticulture, together with general practice, make it much

safest to transplant after the leaves have fallen in the ordinary maturity and extent of season, and undoubtedly such is the correct theory and practice, when trees have to be taken from a nursery, packed and shipped a distance; but where they can be removed from a part of one's own grounds or obtained from a nursery within a few miles, we believe the early transplanting to give the most vigorous growth the following year.

NOTES ON RASPBERRIES AND CURRENTS.

BY CHAS. DOWNING, NEWBURGH.

MESSRS. EDITORS:—In the June number of the *HORTICULTURIST*, you requested notes on raspberries, &c. On examining my collection numbering over forty varieties, I find among the new ones that Clarke, Hornet, Philadelphia, Northumberland, Fillbasket and Belle de Palluau are good and promising sorts, and the latter, I think, will prove a good market variety, the fruit being large, firm and of excellent flavor, and the plant vigorous and productive. The Clarke is a juicy, sweet berry; plant vigorous, very productive and one of the best for family use, but, I fear, too soft for market purposes. The Philadelphia is an American variety originated near that city, and celebrated in that locality for its hardiness and productiveness, and seems to be well suited to the light soils of New Jersey, where the finer European kinds generally fail—on Wm. Parry's grounds at Cinnaminson, and Edmund Morris' at Burlington, which I visited in picking season; it proved all that had been claimed for it as a profitable market sort. The berry is not as large nor as high-flavored as the European varieties. How it will succeed in other localities has yet to be tested. Among the best for family use are Brinckle's Orange, Franconia, Clarke,

Belle de Palluau, Vice-President French and Hudson River Antwerp. For market purposes in this locality and some miles north and south of here the Hudson River Antwerp is the favorite sort, although I think Franconia, and perhaps Belle de Palluau, will prove on further trial equally as good.

There have been several new ones introduced of the Black Cap family, but they are so similar to the common and Doolittle, as not to be worth a separate notice. There is one received from Samuel Miller, of Avon, Pa., which he calls Surprise, which is a little larger, more juicy, more conic in form, and has more bloom on it. This, however, is from one year's experience, and may not be correct. There is also a new variety received from Joseph Sinton, of Angola, Erie county, New York, which is like the others in many respects except that it is entirely thornless. This promises to be an acquisition. It is claimed to be earlier and more productive; but having only fruited it the present season and from a plant received the past spring, I am not able to decide correctly. Of the Everbearing varieties, the Ohio Everbearing and Bello de Fontenay have proved the best with me.

CURRENTS.

I find this class of fruits in much confusion and incorrect. For several years I have obtained from Europe and this country and from various persons all the good kinds of any reputation; have made a pretty thorough examination of them the two past seasons, and find but few distinct enough to retain as really good.

Among the white ones, White Dutch and White Grape are the best. Transparent white is said to be a seedling, and no doubt is, it is so similar to White Grape in growth, quality and productiveness, that it is not worth while to make a new sort of it.

White Provence is distinct, many of the vines being edged with white, it is the most vigorous of the white sorts. Fruit large, but not as productive as the two above-named ones. Attractor is distinct in foliage, being deeply cut or toothed, but the fruit is not equal in quality to White grape. White Clinton is White Dutch. Imperial Yellow and Imperial White are White Grape.

Red Grape and Wilmot's Red Grape, if distinct from May's Victoria, I am not able to distinguish them. Fertile d'Anger's, acrocarpa and Imperial Red are the same Versaillaise or Cherry, and these two are so much alike that it is often difficult to distinguish one from the other.

The Versaillaise is said to be a seedling of the Cherry, and often has longer bunches, sometimes not. We sometimes think it less acid, but the difference is slight. Both are large and attractive kinds, and command double the price in market of other sorts; but are more acid and watery, and not near as rich as Red Dutch and many other red varieties. Red Provence and Gondoin Red, as I received them, are alike. They are the most vigorous of all the currants, with pale, reddish young branches. The fruit is small, acid, and worthless.

Red Dutch, May's Victoria, La Hative, Knights' Large Red and Versaillaise are among the best of the red ones. Knights Early Red, Knights Sweet Red, Long-Bunched Red and Short-Bunched Red, are of the Red Dutch family, but no better. La Fertile is a vigorous grower, productive, large size, but not equal to some others in flavor.

Of the black varieties, Black English and Black Naples are the best.

In making the above statements, I wish to say that I have no private interests to serve, and have no plants for sale, but give it as my experience of the kinds as received from various sources and at several different times from the same persons; and if incorrect, I hope others of more extended experience will correct me.

NOTES ON THE JULY NUMBER.

LAWNS IN ASSEMBLAGES.—An admirably conceived and well written article. The writer, however, has overlooked one or two points. First: he says, "Columbus, when landed, found no lawns or parks." True, did not; and yet, at that time, in our native territories, now Wisconsin, &c., there, and yet are, hundreds of native lawns, dotted with their island groves of trees; and again, extensive parks, with lawns and there grand old oaks, amid which timid deer is occasionally to be seen.—In, it is not always grouping of trees

that bring out the best results. Nature does her work most admirably, it is acknowledged, but she also does it with her tree planting according to the surrounding of her earth formations. Thus, her masses of scrawny, yet bold and picturesque trees, on her hill sides and rocky dells, are not found on her level, sandy, or prairie plains; and he who studies Nature to copy or improve, by giving her a hint, has a wide field for learning, and may study to good advantage. In this improving on Nature by hints, few are successful. The grouping of trees like

the Norway Larch, Lombardy Poplar, &c., of a pointed or spiral character, would not be Nature on a sandy level, where the scenery for miles was one continuation of the same character; and more and more would it be incongruous if the style of the buildings were of the Tuscan or Italian orders; but, as I said, this article is well written, and I shall be glad to see the writer in print again.

DESIGNS IN RURAL ARCHITECTURE.—I like this design for the section of country in which it is constructed, but he who copies may doubt its adaptation to all sections. The bold scenery of the Hudson suits well with points and gables.

PLAN FOR LAVING-OUT A THREE-ACRE LOT.—Decidedly a good plan. The walks are gently curved, not crooked; and the whole plan, if carried out and cared for, would give satisfaction to the owner.

HEBE PEAR.—Will Mr. Sumner tell us where this pear originated, and what is the habit of the tree?

THE CANKER WORM.—Colonel Dewey shall have a credit mark for this expose of our ignorance of the habits and destructive agents of the canker worm. As he says, the worm, while in the chrysalid state, is readily devoured by poultry; to which I will also add, poultry will destroy it when in the form of Fig. 89.

Years ago, I knew an orchard in New Haven County kept perfectly clear of canker worm by means of poultry; while, in the same season, the grand old elms of New Haven were almost leafless from its ravages.

HINTS ON TRANSPLANTING EVERGREENS.—“Never let the roots see the sun or feel the wind” is truly the maxim of government to the planter of evergreens. I can not, however, after nearly thirty years of practice, and with hundreds of thousands of plants, concur in the recommendation to “plant from May to August.” My experience is, that, with *all* evergreens, the *very best* time is just as they are pushing their buds in Spring. With Norway, Scotch, and Austrian Pines, September is better

than July or August. In other words, if they have well ripened the season’s growth they may be safely removed. American Arbor Vite and Red Cedar do not do well removed at any other season than Spring.

E. W. BULL ON GRAPE-CULTURE.—Well, I am disposed to swallow almost anything in the way of a large story about the profits of grapes, but I must confess I give interested parties a little latitude when they talk of their own originating or procedure. This producing seven tons of grapes to the acre should first be shown by the acre, not by computing the product of one vine in a garden, and calculating the number to the acre. The experience of the last winter on the vineyards in Northern Ohio, I think, is a hint to growers that Nature must not be overtired, many of the vineyards there, that last year produced very heavy crops, being this year almost dead, many vines entirely killed; while, as a rule, the vines that last year bore no fruit are this year growing a good crop.

Is not Mr. Merrick too fast when he says the Iona “needs the highest possible cultivation?” Mr. Ball’s item of compost is not regarded as a useful item at the West; or, if used, it would be considered as a “potting process,” not in the line of “grape-growing made easy.” Without desiring to detract from the vigor, &c., of the Concord, too well known to doubt I only say that I have seen the Iona planted this year in strong, stiff clay, and at the time (July) show a growth fully equal to the Concord in similar positions. Do not understand by this that I claim the Iona as vigorous as Concord, but that I speak of it to show Mr. Merrick that I think him too fast in placing it as a variety needing to be potted. Mr. Bull’s method of planting is too expensive for the western vineyard; however well it may answer for New England; and his advice to save all the roots, and not to shorten them in, does not correspond with success in physiological practice.

THE ORIGINAL RED BEECH TREE.—Thanks, thanks, Horticola, for this account

From the history of its seed producing red beeches when taken from inside branches, and green beeches when gathered from the outside, may not our seedling fruit-tree growers learn a lesson, and where it is desirable to perpetuate the leading characters of a kind, select their fruits accordingly.

SIR THOMAS BROWNE'S GARDEN OF CYRUS.—Occasionally, I like to read Sir Thomas, but, as a rule, two or three pages suffice. Perhaps, few authors have written better; but, then, we more require when reading the want of that "light that makes some things seen."

THE CAMPANULA.—Who does not know the Campanula, or, as the writer says, the Canterbury Bell? It is found in every lower-garden from Maine to California.—But the beauty of the Campanulas, to my

mind, is in the perennials. I well remember a plant of *Campanula Pyramidalis*, some years since, at a State exhibition. It was about five feet high, in full bloom, and constantly attracted a crowd of wondrous gazers, whose knowledge of the Campanula had, up to that time, been merged in the old single blue biennial.

INSIDE GRAPE BORDERS.—If inside borders will not answer on a concrete bottom, why use the concrete? Take the soil, good of course; give drainage as for out of doors, and see the result.

MATERIALS FOR GREEN-HOUSES.—This author is right in advocating wood.

FORCING STRAWBERRIES.—A practical detail, to be read by all gardeners.

REUBEN.

MY EXPERIENCE WITH GOOSEBERRIES.

BY TYRUS.

I HAVE been paying some little attention to the cultivation of the gooseberry, and from the results, I am a little surprised at their cultivation, as a market crop, is not more extensive.

The English or imported varieties, we now, do not succeed well, on account of liability to mildew; but our American sorts, such as Houghton, Cluster, &c., I have found to grow and bear most satisfactorily.

My soil is a poor clay, some of it quite the brick-bat order, and unavailable for swing corn or potatoes; and yet the gooseberry grows vigorously on it, and bears crops of good-sized berries.

A friend of mine has tried growing them a good sandy loam, but quite unsuccessfully; and yet I find single bushes in almost every garden, evidencing their almost universal adaptability to all soils. I plant my bushes early in the fall, having first plowed my ground as deep as possible with a heavy team and plow. I open

out furrows four feet apart, and cross furrows at same distance; then plant, so that my bushes are four by four feet each way; leave the ground level until near the close of the season, or just before freezing up of winter, when I turn a furrow up toward each side of the plants, leaving them well protected from heaving of frost, and providing for whatever surface-water there may be at a distance from the plant.

I have gathered this year four quarts from a bush, and have sold at four and five dollars a bushel.

The varieties I am mostly growing are Houghton's Seedling, Cluster, Mountain Seedling, and Downing, and I appreciate their value in the order in which I have named them, and for the following reasons, which I make part of text descriptive:

HOUGHTON'S SEEDLING.—Bush grows vigorously, a little too slender to be just right, because when loaded with fruit it lies partly on the ground until the bushes get age. Sets its fruit profusely, and holds it

all until ripe. The fruit is oval; rather small; smooth skin, of pale, dull reddish brown, with faint green lines; tender and juicy, but not very high flavored; shows not a sign of mildew either when grown in the shade, in the sun, in wet or dry ground.

CLUSTER.—This is a little larger than Houghton, but does not set quite as abundantly. The bush is of a rather more stocky habit in growth, and more upright; a little richer and better flavored fruit, and may yet prove with me more desirable than Houghton.

MOUNTAIN SEEDLING.—The plant is a very strong grower, rather straggling and slender in its wood; too much so, for as yet it has had to have support to keep the fruit off the ground. The fruit is nearly one-half, say fully one-third, larger than Houghton; long oval; dark brownish red, with long peduncle, attaching the fruit to the wood at such distance as to make picking an easy

matter; skin smooth; flesh much richer than either the above-named. My bushes of this sort are yet young. Should they grow strong enough to head back well, and set their fruit abundantly, it will prove a valuable sort because of its size.

DOWNING.—The bush is a more compact and upright stiff grower than either of the others. The fruit sets pretty well; is nearly round; pale whitish green, with the rib veins distinct. Skin smooth, thick. Flesh juicy; better than the first two; not as good as the last; and, unfortunately, with me it burns badly in the sun, so that one-half or more of the berries are valueless.—As a variety for early gathering it may be the most valuable, but for late marketing not as good as the others.

At another time, if you wish, I will write my experience with currants for marketing purposes.

STRAWBERRY AND RASPBERRY NOTES.

BY ISAAC HICKS.

The crops of strawberries on Long Island, where they were suitably protected last winter, have been good. Mulching, we believe, pays.

One grower, who has three acres mostly Wilson, on the southern slope of a hill, has marketed over 10,000 quarts. They were well tilled, and kept in hills, and mulched, rows about two feet apart. Another grower had about six acres in bearing, mostly Russell's Prolific, every tenth row French, and allowed to run together; product near 8,000 quarts. We think that the French is too soft for market. The Garibaldi is larger, more productive, and carries better—a very important consideration to the grower. The Agriculturist, so far as we have heard, have all been allowed to increase as much as possible to obtain plants, and we think it has not had a fair trial. It should be grown in hills, under high culti-

vation, to bring out its good qualities. We find it valuable as a late berry; keeps a long time after it is picked; of high flavor; and in hills very productive.

Brooklyn Scarlet is beautiful; high flavor; an excellent amateur berry.

General Scott is very productive; large; not best flavor; too soft for market.

Russell is very prolific, and a good profitable berry.

Cutter is very productive; too soft for market, but excellent for home use.

Lennings White, very poor bearer.

Lady Finger, or Scott's, good, but poor bearer.

Austin, too poor flavor for cultivation.

Wilson, probably the best yet for market.

Bartlett, or Boston Pine, fine, but poor bearer; the Brooklyn Scarlet resembles it in flavor, and is much better in every respect.

Triomph de Gand, fine flavor, but generally few in number; if kept in hills, much better.

Of raspberries, we have tried a dozen or more kinds, and have abandoned all but the Brinckle's Orange, Doolittle Black Cap, and Philadelphia.

Brinckle's Orange, and all others of that class, require too much care in covering, and are not near as productive as the other two.

Doolittle is early, large, and productive but a rampant grower, and is quite thorny.

The Philadelphia raspberry has borne twice, and, for our soil, it is the best we have yet met with. It is very productive, much more so than Antwerp, Orange, Franconia, Fastolf, &c., with us. It resembles the Purple Cane in its taste, and is double the size, just as hardy, and throws up suckers from its roots like the Antwerp.

We have been in search of a good, hardy, productive raspberry, suitable for our light soil, and we have found it in the Philadelphia.

North Hempstead, L. I.

GLEANINGS.—*Continued.*

VI.

It is a strange thing how little, in general, people know about the sky. It is the art of the creation for which nature has one more for the sake of pleasing man, more for the sole and evident purpose of alking to him and teaching him, than in any other of her works, and it is just the art in which we least attend to her. There are not many of her dim works in which one more material or essential purpose than the mere pleasing of man is not answered by every part of their organization; instead of this, there is not a moment of my day of our lives when Nature is not producing scene after scene, picture after picture, glory after glory; and working still upon such exquisite and constant principles of the most perfect beauty, that it is quite certain it is all done for us, and intended for our profit, not pleasure. And every man, wherever placed, however far from other sources of interest or beauty, is this doing for him constantly. The noblest scenes of the earth can be seen and known but by few; it is not intended that man should live always in the midst of them; he injures them by his presence; he ceases to feel them if he be always with them; but the sky is for all; bright as it is, it is not

"Too bright nor good
For human nature's daily food."

It is fitted in all its functions for the perpetual comfort and exalting of the heart—for soothing it and purifying it of its dross and dust. Sometimes gentle, sometimes capricious, sometimes awful, never the same for two moments together, almost human in its passions, almost spiritual in its tenderness, almost divine in its affinity; its appeal to what is immortal in us is as distinct as its ministry of chastisement or of blessing to what is mortal is essential. And yet we never attend to it, we never make it a subject of thought, but as it has to do with our animal sensations; we look upon all which bears witness to the intention of the Supreme, that we are to receive more from the covering vault than the light and the dew which we share with the weed and the worm, only as the succession of meaningless and motionless accidents, too common and too vain to be worthy of a moment of watchfulness, or a glance of admiration. If in our moments of utter idleness and insipidity we turn to the sky as a last resource, which of its phenomena do we speak of? One says it has been wet; and another it has been windy; and another it has been warm. Who, among the whole chattering crowd, can tell me of the forms and the precipices of the chain of tall white mountains that girded the horizon at noon yesterday? Who saw the narrow sunbeam that came out of the south, and smote upon

their summits until they melted and mouldered away in a mist of blue rain? Or the dance of the dead clouds when the sunlight left them last night, and the west wind blew them before it like withered leaves? All has passed unregretted, as unseen; or if the apathy be ever shaken off, even for an instant, it is only by what is gross, or what is extraordinary; and yet it is not in the broad and fierce manifestations of the elemental energies, not in the crash of the hail, nor the drift of the whirlwind, that the highest characters of the sublime are developed. God is not in the earthquake, nor in the fire, but in the still small voice. They are but the blunt and the low faculties of his nature, which can only be ad-dressed through lampblack and lightning. It is in quiet and subdued passages of un-obtrusive majesty, the deep, and the calm, and the perpetual; that which must be sought ere it can be seen, and loved ere it is understood; things which the angels work out for us daily, and yet vary eternally, which are never wanting, and never repeated; which are to be found always, yet each found but once; it is through these that her lessons of devotion are chiefly taught, and the blessings of beauty given.

VII.

It is well known that in Holland the tulip became, about the middle of the seventeenth century, the object of a trade unparalleled in the history of commercial speculation. From 1634 to 1637, all classes in all the great cities of Holland, became infected with the tulipomania. A single root of a particular species, called the Viceroy, was exchanged, in the true Dutch taste, for the following articles:—Two lasts of wheat, four of rye, four fat oxen, three fat swine, twelve fat sheep, two hogsheads of wine, four tuns of beer, two tuns of butter, one thousand pounds weight of cheese, a complete bed, a suit of clothes, and a silver beaker, the whole being worth 2,500 florins.

These tulips were afterwards sold according to the weight of the roots. Four hundred perits, something less than a grain, of

the bulb called Admiral Leifken, cost 4,400 florins; 446 perits of Admiral Vonder Ert, 1,620 florins; 106 perits of Schilder, 1,615 florins; 200 perits of Semper Augustus, 5,500 florins; 410 perits of the Viceroy, 3,000 florins, &c. A bulb of the species called Semper Augustus, has been often sold for 2,000 florins; and it once happened that there were only two bulbs in existence, the one at Amsterdam, the other at Haarlem. One of these sold for 4,600 florins, together with a new carriage, two grey horses, and complete harness. On another occasion, a bulb was sold for twelve acres of land. So great was the rage for favorite bulbs, that they who had not ready money exchanged for them their goods—houses and lands, cattle and clothes. The trade was followed not alone by mercantile people, but also by the first noblemen, citizens of every description, mechanics, seamen, farmers, turf-diggers, chimney-sweeps, footmen maid-servants, old clothes dealers, &c.

At the commencement of the rage, everybody won, and no one lost. Some of the poorest people gained, in a few months, houses, coaches, and horses, and figured away like the first characters in the land. In every town some tavern was selected which served as an exchange, where high and low traded in flowers, and confirmed their bargains with the most sumptuous entertainments. They formed laws for themselves, and had their notaries and clerks.

These dealers in flowers were by no means desirous to get possession of them, no one thought of sending, much less of giving himself, to Constantinople, to procure scarce roots, as many Europeans travel to Golconda and Visipour to obtain rare and precious stones. Tulips of all prices were in the market, and their roots were divided into small portions, known by the name of *perits*, in order that the poor as well as the rich might be admitted into the speculation; the tulip root itself was out of the question—it was a nonentity, but is furnished, like modern stocks and funds, the subject of a bargain for a time.

During the tulipomania, a speculator often offered and paid large sums for a root which he never received, and never wished to receive. Another sold roots which he never possessed or delivered. Often did a nobleman purchase from a chimney-sweep tulips to the amount of 2,000 florins, and sell them at the same time to a farmer, and neither the nobleman, chimney-sweep, nor farmer had roots in their possession, or wished to possess them. Before the tulip season was over, more roots were sold and purchased, espouse and promised to be delivered, than, in all probability, could be found in all the gardens of Holland; and when the *Semper Augustus* was not to be had, which happened twice, no species was perhaps oftener purchased and sold. In the space of three years, it is said, more than ten millions were expended in this trade in one single town of Holland.

The evil rose to such a pitch, that the States of Holland were under the necessity of interfering; the buyers took the alarm; the bubble, like the South Sea scheme, suddenly burst; and as in the outset all were winners, in the winding-up very few escaped without loss.

VIII.

Observers who, in short periods of time, have passed over vast tracts of land, and ascended lofty mountains, in which climates were ranged, as it were, in strata, one above another, must have been early impressed by the regularity with which vegetable

forms are distributed. The results yielded by their observations furnished the rough materials for a science to which no name has yet been given. The same zones, or regions of vegetation, which, in the sixteenth century, Cardinal Bembo, when a youth, described on the declivity of Etna, were observed on Mount Ararat by Tournefort. He ingeniously compared the Alpine flora with the flora of plains situated in different latitudes, and was the first to observe the influence exercised in mountainous regions, on the distribution of plants, by the elevation of the ground above the level of the sea, and by the distance from the poles in flat countries. Menzel, in an unedited work on the flora of Japan, accidentally made use of the term "geography of plants;" and the same expression occurs in the fanciful but graceful work of Bernadin de St. Pierre, *Studies of Nature*. A scientific treatment of the subject began, however, only when the geography of plants was intimately associated with the study of the distribution of heat over the surface of the earth, and when the arrangement of vegetable forms in natural families admitted of a numerical estimate being made of the different forms which increase or decrease as we recede from the equator towards the poles, and of the relations in which, in different parts of the earth, each family stood with reference to the whole mass of phanerogamic indigenous plants of the same region.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. WOODWARD, 37 Park Row, New York.

WOODWARD'S ANNUAL OF ARCHITECTURE, LANDSCAPE GARDENING, AND RURAL ART, for 1867, is now ready. 120 pages; 160 engravings; 12mo. Paper, 75c.; cloth, \$1. Post paid by mail.

We have just published at this office the first annual number of the above work. It contains 170 original and practical designs for low-priced cottages, barns, and the different outbuildings required on country

places, together with numerous plans for laying-out small tracts of land. The designs and engravings have been prepared expressly for the work, are executed in the best manner, and printed on fine calendered paper.

We confidently recommend this Annual to all our readers, as supplying in part the great demand for "homes for the million;" and the elegant manner in which it has been prepared, together with the low price at which it is offered, warrants us in predicting for it a very large sale. The universal circulation of such a work would do much to improve public taste. There is scarcely a family in the land but are in need of the many hints it contains.

RASPBERRY Notes.—We have noticed a tendency during the past few years to run upon the blackberry, to the neglect of the raspberry, so far as raising fruit for market was concerned. The result is, raspberries are yearly growing scarcer and selling higher, while "plenty as blackberries" is literally true with that fruit, and growers complain of light returns in money, not berries. It is now time to change the current and revive the neglected raspberry.

For family use *Brinkle's Orange* ranks No. 1, and when better known will sell where it does not have to be carried far. Flavor excellent, size large, abundant bearer, and ripens its fruit over a long period, thus extending the raspberry season. It is only half-hardy, and should be laid down and covered with earth, or otherwise protected during the winter. The canes are strong and branching, and have the merit of not suckering freely.

Doolittle's Black Cap is a valuable variety, to say nothing about its improvement over the ordinary Black Cap. Our own opinion is that high culture of transplanted Wild Black Caps would make the "improved" in a very few years, but as the Doolittle is abundantly propagated by nurserymen—it can be increased very rapidly with no skill on the part of the grower—and is now sold

at a reasonable price, it is better to buy enough to start with, which need not be over two dozen for a large family. When well established, each root or stool should yield four to six quarts of fruit in a season, so prolific are they. They are perfectly hardy, even as far north as Maine. The objection raised against them are, color, ripening nearly together, and thorny canes. By training upon a high trellis, keeping sheared or tied in, they can be conveniently managed. They incline to a lengthy growth, and after reaching the top of a six-foot trellis, may be allowed to bend over and return to the ground, affording a bearing cane both up and down. Even with this length, on rich soil, the extremity will often reach the soil and take root, thus furnishing a new plant, this being the way it propagates itself. The old root will live many years and throw up new shoots close to the bearing canes. They may be trained upon buildings or high fences. Growing in clusters, the berries can be picked rapidly, and, to our taste, are not bad either in pies, puddings, dumplings, as a sauce, or served up raw with sugar. It bears carriage to market well, and is growing in favor both with dealers and consumers.

Franconia, *Fastolf*, and *Hudson River Antwerp*, are all good, and each has its favorite among growers. The latter, being firmer, is the great market berry, but for family use we prefer either of the other two in point of flavor. They are all good bearers, of large size, and each should be protected during winter. This protection is a hug-bear to some; but take them after a rain, when the canes are soft, and they may be bent down along the line of the row, beginning at one end and bending each cane toward the other end, securing it with a little earth, until all are down, then go along each side and bank up over them just enough to keep them covered during the washings of winter. To afford room for this, the rows should be four feet apart. A person will soon learn to cover them rapidly. In field culture a horse and plough will do most of the labor.

Lindley's Fastolff is reputed to be a seedling of the Fastolff, but carries more of the appearance of having sprung from a wildling. It is sufficiently hardy, as claimed, but with us does not yield fruit in quantity, size and quality to suit. We prefer the labor of covering a more prolific, larger and better sort. There are other varieties of merit, but the above are sufficient for all practical purposes.—*New York Tribune*.

TEMPERATURE OF PLANT AND FRUIT HOUSES.—One of the greatest errors committed by inexperienced gardeners, and those in charge of small plant or fruit houses, is in the keeping of a relative temperature day and night. As a rule, the temperature at night is always too high. Plants require rest at night, and can only have it by a reduced course of vital excitement. The heat at night should always be below the minimum of that during the day, and again, the heat during a cloudy day should not be brought up to the maximum of that on a clear, bright, sunny day.

HEDGE PLANT.—For a compact and beautiful hedge-plant, there is none that has stood the test of all positions so well as the Buckthorn (*Rhamnus Caltharticus*). It does not sucker; it bears the shears perfectly; it vegetates early in the spring, and sheds its leaves late in fall, and, when well pruned, and four to five feet high, not a being can pass through it. The seed should be gathered and sown in the fall, in light yellow land. The following spring it will early all vegetate, and form plants of sufficient size for transplanting to the hedge in the succeeding year.

THE HYBRIDIZATION of ferns has long been a disputed problem. But it is now agreed that it has been accomplished. The conditions, however, under which the result can be attained, are so difficult and delicate, that hybrids of ferns must be exceedingly rare, if ever found at all.

WOODWARD'S COUNTRY HOUSE.—Eighth edition; eighth thousand; revised and enlarged; 12mo.; 192 pages; 150 designs and plans for country houses and outbuildings of moderate cost, with illustrated description of balloon frame. Extra binding, cloth, \$1.50, post paid.

THERE is a singular want of appreciation for our own horticultural products among our leading cultivators. An imported flower or fruit stands a better chance of becoming popular, and being sought after by a multitude of people, than our home productions, even though they may be superior in every way. We do not mean, of course, to discourage the importation of new varieties. On the contrary, we would have our horticulturists avail themselves of every favorable opportunity to introduce superior, well-established, and new varieties of foreign productions. But at the same time, encouragement should be liberally given to our own cultivators who are laboring to improve our native fruits and flowers. We have capabilities of soil and climate, and patient culture to secure varieties superior to anything that can come from abroad.

WEEPING LARCH.—This most graceful as well as curious of weeping deciduous trees, originated by chance in a seed bed grown by W. Godsall, Hereford Nursery, England, about 1834.

GRAPE YIELD.—In 1837, the *Cincinnati Gazette* recorded six hundred and seventy-seven gallons of pure wine as the product of eighteen thousand square feet, less than half an acre of ground. The grower was Jacob Resor, and the varieties Catawba and Cape.

In the same year, Mr. Herbemont, of Columbia, S. C., reported five hundred and twenty-eight gallons from one-sixth of an acre. These records we give to show some of our new beginners, who are at times a little disposed to boast, that large yields have been before their time.

GRAPES AND WINE.—Every man who has a grapevine should get a copy of Husmann's new work on the cultivation of the native grape, and manufacture of American wines. A practical book, by a practical and enthusiastic writer full of his subject, and able to impart sound and thorough instruction. Fully illustrated; 12mo.; 192 pages. Cloth, extra, \$1.50, post paid.—Published at this office.

Bee DEFENDER.—Charlatan bee men occasionally astonish the wondering multitude by forming the bees in a swarm all over their heads, &c., and again removing them to the hive, without any injury from their stings.

It is related in *Addison's Indian Reminiscences*, an English work, that the use of *ocimum* (sweet basil), bruised and rubbed over the person, prevents the bees stinging, and renders their being handled in any way without injury.

WESTERN TIMBER LANDS.—“A long and exhaustive report upon the timber question of the West was on the 2d transmitted to the House Committee on Public Lands by Judge Edmonds, Commissioner of the General Land Office, in reply to a call for information, under the resolution of Representative Donnelly, as to the expediency of aiding experiments in promoting the growth of forests on the Western Plains. Judge Edmonds states that the vast Western Plains and plateau can only be rendered habitable by planting forests, which will fertilize and moisten the soil, soften and modify the climate, and protect men, animals, and crops, from the desolating winds of those regions. The supply of timber in the Western two-thirds of the Union is shown to be very meager, while the prairie region is vast in extent, until our people have risen from 3,000,000 to 33,000,000. We have gone through and surrounded the primeval forests, and now enter upon the margin of the great treeless waste with our original store three-fourths consumed, the

demand accelerated, and the consumers to increase from 33,000,000 to 50,000,000 during this century. Extend the time fifty years into the next century, and unless we commence to grow forests, we may be driven to the use of boards three inches wide, as in China at the present time. Is it not apparent that we should at once cease to needlessly destroy, and commence to produce timber. The Commissioner thinks the object cannot be accomplished by granting alternate sections of land, as the Homestead Act already gives land upon the condition of settlement. For the cost of planting and caring for infant forests, alternate sections of grants would be an inadequate consideration. He is not prepared to recommend any general system to encourage the growth of forests, but thinks one may be matured after free discussion, and when information is compiled as to the extent of natural forests, &c., which is now being prepared by the agents of this office. He closes with three suggestions: 1st. That the Homestead Act may be so amended as to oblige the planting of trees by the settler. 2d. That Government surveyors be required to plant the seeds of trees adapted to the climate around each established corner.—3d. That grants may with propriety be made for the purpose of demonstrating the possibility and feasibility of growing forests upon the great Western plains. Such an experiment would stimulate individual enterprise in that direction, which, after all, is the only trustworthy and efficient power for so great a work, and it would furnish facts which might aid in the development of some general system.”

BUDDED ROSES should be carefully examined, and where any appearance of swelling, the tie should be loosened. Do not free the tie entirely, because, if so done, often the bud will break loose. Loosen the tie and tie again. In strong growing stocks or shoots it is not yet too late to bud, but the ties of the late buds will generally prove best to be left on until spring.

GET ALL OUR NEW BOOKS.—We have published at this office a series of nine books, on architecture, agriculture, horticulture, &c.; just what everyone should have in their library; all handsomely illustrated, printed on fine paper, and bound in uniform extra bindings. In addition, we furnish from this office all other publications on the same subjects, and execute orders for purchasing and forwarding all miscellaneous books.

We send books by mail, post paid, carefully packed; and the distant buyer can thus be supplied as low and receive his books in as good order, as by a personal application. Look over our priced Catalogue, send us your order, and it will be promptly executed.

NEW LAWNS.—The month of September is again the time for forming lawns. We have prepared the ground, and seeded it in September, and obtained a good coat of grass strong and vigorous before the frosts of winter sat in. The ground should be thoroughly trenched two spades deep, for without depth of soil the roots of the grass die out under the burning heat of our summer suns. Make the soil at time of trenching rich by working in it liberal quantities of old well rotted manure, or if the ground is sandy draw upon it freely of clay loam, rake down as fast as you dig, burying all lumps that do not easily break, leaving the top perfectly fine, light and smooth to receive the seed.

Obtain at the rate of four bushels of lawn grass seed to the acre—select a perfectly still time for sowing, and then scatter one-half your seed, rake this in finely and yet lightly—go over again cross ways and sow the balance of the seed, then roll all down, by passing the roller both ways over the piece.

If the weather should prove dry, directly after seeding it will not matter, the fall rains as a general result will in all seasons bring up the seed, and cause it to make roots capable of enduring the changes of winter.

A scattering of coarse straw manure, not rotten, over the whole, will serve to protect from change of temperature in winter, but it must be raked off carefully early in April next.

THE PEACH WORM.—Should be destroyed this (September,) month. Dig away the earth from around the crown of the tree, laying bare the stem two or three inches above and below, observe if any gum oozes from any point, if so, scratch away with a sharp knife cutting all dead bark that may be around and under the gum following the dead line until you meet "the enemy" in form of a little white grub one quarter to three quarters of an inch long as he may be old or young, kill without fear of future trial by civil or military Courts, wash the wound with a plaster of common soft soap, replace the earth raising a little mound around the tree of a foot or so high. Trees carefully cleaned at this time will be found free from grub in April next when they should again be examined. If the trees are now neglected many of them will be past saving in the spring as the grub will be found to have girdled more or less of the trunk.

GRAPE-VINES in the house will now be ripening wood, and care should be taken to give freely of air. Prune away all useless wood, that is small and lateral shoots.

Vines in the open ground now require only to have some of the laterals stopped; but do not prune back severely, under the impression that sunlight is wanted to ripen the fruit. It is the foliage that makes perfect fruit; and if severely pruned away at this time, a check is given to the vine, often resulting in unripe fruit and a weakness of the vine for another year.

Pears should be gathered as soon as the stem will separate freely from the tree by gently raising the fruit. Nearly all pears are better for being ripened in the house.

NATIVE WINES.—Some weeks since, we received, from George Husmann, Esq., of Hermann, Missouri, a box of samples of wines of his manufacture. We had concluded, after testing samples of American wines that have been sent us for several years past, from different sources, that good wine would not be made in our country.—The climate, the particular grape, or the requisite skill in the manufacture seemed wanting to produce a palatable article; but we are happily disappointed in the product of Mr. Husmann's vineyards, some of which will bear most favorable comparison with the best wines of the Rhine, and must meet with favor among those who are good judges of the article.

Among the kinds particularly worthy of notice, are Norton's Virginia, Herbemont, Delaware and Catawba.

Do not permit any fruit to go to waste. Imperfect, wormy apples or pears, if not in quantity for cider, may be mashed in a tub, the juice pressed, and added to the vinegar barrel.

HORTICULTURAL EXHIBITIONS.—The season for holding exhibitions, of fruits, flowers, &c., is now again with us, and of course new varieties of fruits, &c., will come forward for premiums. We beg respectfully to call the attention of committees and officers of societies to the fact, that most of our societies, devoted to the agricultural and horticultural interests, have adopted pomological rules respecting the introduction of new fruits to the tender mercies of the public, and at the same time to remind them that, in some strange unaccountable manner, we have almost yearly a list of *new first premium* sorts issued, and never afterward heard of. This season, we hope no new fruit or flower will receive special favor unless it fully meets all the requirements of pomological rules. Our lists are already overburdened, and any new candidate to public favor should have a more thorough examination even than is given to admis-

sion of members of the Bar at the West.—Let us, too, pray you have no more second-rate productions, or untried fruits, offered or sale as *first premium* to gull the public.

THE SCIENCE OF GOVERNMENT IN CONNECTION WITH GOVERNMENT INSTITUTIONS.—By Joseph Alden, D. D., L. L. D., late President of Jefferson College, Author of Elements of Intellectual Philosophy, &c. New York, Sheldon & Co., pp. 250, 12mo.

The author says the object of his "book is to aid the young in acquiring the knowledge necessary for the discharge of their duties as citizens of the United States." It contains knowledge which ought to be possessed by every citizen, and it is so clearly expressed as to be perfectly intelligible even to those who have not read on the subjects of which it treats. It gives first the general principles of government, then an account of the origin, formation and adoption of the Federal Constitution. Next comes the Constitution itself, by sections, each accompanied by brief, clear, and satisfactory comments; next the relation of the State Government to the National Government and the general provision of the State Constitutions; then the relation of city and corporate governments to the State Government; and lastly, the relations existing between nations, or the general principles of International Law.

It is rare that we find so much knowledge condensed within so small a space, without obscurity or dullness. The book is designed primarily as a text book, but will be found interesting and profitable to every citizen. Its wide introduction as a text book in our academies and schools would do much to prepare the rising generation to manage successfully our political institutions. If there is any that our youth should study, it is the nature of the government and its institutions whose control will soon pass into their hands. It would seem folly to study the institutions of Greece and Rome to the neglect of those of the United States.

We have now ready, a practical work on the propagation, cultivation, and management of forest trees, by Andrew S. Fuller, the popular author of the "Grape Culturist" and the "Strawberry Culturist." This work is handsomely illustrated, and conveys just the information desired by practical men who propose to plant for timber and fuel.

The book contains about 200 pages, in extra cloth binding, and uniform with the books already published by us, and sent free by mail to any address, on receipt of \$1.50. We predict for it the same wide circulation, and extraordinary success, that has attended the publication of "Woodward's COUNTRY HOMES," the 8th edition of which, revised and enlarged, is now ready.

TRANSPLANTING EVERGREENS.—We have found the middle to last of this month, September, a good time to remove evergreens. They have now completed their growth; the wood is firm, and if removed with care and the roots kept from getting dry, the warmth of the soil at this season causes them at once to form new rootlets and prepare for winter.

Unless our trees are small and removed with balls, we practice heading back of all the limbs and even the leader fully one-half to two-thirds of the growth. It matters not what the variety, all the evergreen family appear to bear this heading back without injury. In fact, in nine cases out of ten the following year's growth more than compensates. It also helps to thicken up the tree.

Rose CUTTINGS made this month and planted in a cold frame will form roots and come out fine plants next spring. The bed should have good, fine, rich soil at the bottom with fine, clean sand at top, then the buds of the cutting will not rot, and the roots as soon as formed, will have food in the good soil.

CLEAN THE GROUND.—All the grass or weeds around the trees in young orchards should be carefully cleaned away in the fall but avoid digging or plowing deep around them at this time. Stir and loosen the ground two inches deep, then cover four inches deep with some material for a mulch, but at no time permitting the mulch nearer than four inches of the body, or the mice may chance to girdle the trees before spring.

MULCHING STRAWBERRY BEDS.—In mulching strawberry beds do not go on the principle that if a little is good, more would be better, for it is not so with practice in this particular. The mulch should be only, say one and half or two inches thick, simply to prevent the roots being injured by frosts during winter. A too deep mulch, say of six or more inches, we have known to entirely destroy the vines.

SELECTION OF SHRUBS.—One of our lady subscribers asks for a list of some of the best hardy flowering shrubs for a small garden. In selecting shrubs for small grounds, the beauty of the blossom should not alone be sought, but good foliage and fine habit of growth are desirable in continuing the beauty and show of the grounds during the whole season.

Of the many sorts now grown best desirable to have, we name: *Spiraea billardii* and *prunifolia flore pleno*; *Deutzia gracilis*; *Weigela alba* and *groenewegii*; *Ribes gordoniiana*; *Clethea paniculata*; *Magnolia purpurea*; Tartarian bush Honeysuckle; Venetian sumac or fringe tree; *Spiraea tomentosa* and *Reevesii flore pleno*; French red and white lilacs, and the white and scarlet Japan quince.

CUTTINGS of the gooseberry, currant, and nearly, if not quite all the flowering shrubs, made and planted out this month in light, deep, well drained soil, will callus and often make considerable root and grow vigorously next spring.

PROPAGATE PASSIES.

PLANTING BULBS.—In our practice with bulbs of all sorts, we have found the following to give us the best satisfaction. First, make our ground rich with well rotted manure, dig it two spades deep, take off the surface to the level of planting our bulb, place on the bed one inch of clean sand, in that place our bulbs covering them entirely with the sand; then add our rich soil to the requisite depth of three inches, and then spread over the whole bed some refuse mulch, such as pea or bean, haulm, etc., to a depth of three or four inches. Bulbs should be planted at various times, as those planted early in October will bloom much earlier next spring than those planted in November. We generally make three plantings, one early in October, one in the middle of the month, and a last early in November.

The practice of placing Crocus, Narcissus, etc., around and beneath the shade of large evergreens, or on the border of a shrubbery, etc., is very effective, provided the lawn is kept closely shaven and all the ground in fine order; but for small grounds, pattern beds, cut out of the turf, filled with the bulbs and afterwards with summer flowering plants, give to our eye the best effects and are the least trouble and expense.

Do not be in too great haste to gather grapes; remember that they are not ripe as soon as colored, and that the longer the fruit hangs upon the vine the richer and sweeter it becomes. Grapes, unlike most other fruits, do not ripen any after being gathered.

Young plants of verbenas should now be taken up, potted and placed for a few days in the shade to get established. Layers for winter plants, made directly into the pot by sinking the latter in the ground alongside of the main plant, and afterwards separated, are by many regarded the best.

Planters of trees in the medium Southern States will do well to remember the English walnut. These perfectly hardy and well-grown trees have been known to produce twenty or more bushels, making it a profitable fruit to grow.

Tie up and prune Dahlias that have grown too straggling, the last of this and first of next month will give the best bloom.

CHRYSANTHEMUMS, if not in pots, may yet be potted and trained for early winter bloom in the family room.

Those already in pots may require shifting into larger size pots. They should be well watered, and occasionally with manure water.

CAMELLIAS should be carefully washed, top dressed and got in condition for ready removal to the house as soon as the nights become frosty.

GREEN-HOUSE PLANTS of all sorts should early this month be got ready for removal to the house.

HEARTT'S PIPPIN.—In the August number of the *HORTICULTURIST*, Reuben inquires if I can give some account of Heartt's Pippin. Many years since, I saw a fine large apple in Mr. Heartt's (I have forgotten his christian name) orchard at Troy N. Y., which he did not at the time know the name of, but was called by the neighbors Heartt's Pippin. I took buds for trial, which failed to grow, and sent for grafts the following spring, which, by some mistake, proved to be the apple described by F. R. Elliott in the June number of the *HORTICULTURIST*, which was not correct, and only a small fruit, of second rate quality; while the apple seen at Mr. Heartt's, was large, ripening in September, and which afterward proved to be the old English Codlin, so that there is really no distinct Heartt's Pippin.

CHARLES DOWNING.

CIRCULAR OF THE AMERICAN POMOLOGICAL SOCIETY.—Whereas, the American Pomological Society was ordered to be convened at St. Louis, Mo., on the fourth day of September next, for the purpose of holding its eleventh session; and whereas, the existence of cholera in several of the cities of the United States has become manifest, thereby creating more than usual precaution in regard to visiting places distant from home; therefore, in consideration of this fact, and also of the fact that there is a small crop of fruit in many parts of our country, the undersigned, by and with the advice of the Executive Committee and other leading pomologists, does hereby postpone and defer the meeting of said Society to the year A. D. 1867, when due notice will be given of its assembling in the aforesaid city of St. Louis.

MARSHALL P. WILDER, *Pres.*

JAMES VICK, *Sec.*

Messrs. EDITORS:

I promised to give the HORTICULTURIST my method of planting, in the open ground, vines started from single or double eyes, in hot-bed or propagating-house, as soon as I could be certain, from another year's experience, that in any weather—hot or cold, wet or dry—there will be no chance of failure. Last year, I transplanted between two and three thousand Delaware and Iona vines from a hot-bed to the open ground, and did not lose one per cent. By Fall, they all made large fine vines, and were, this spring, again planted in the nursery (I plant in my vineyard, and offer for sale, only two-year-old vines), and at this age, they are nearly all of them three feet high.

For two months past, I have been transplanting from my hot-beds plants of the Delaware, Iona, Diana, and Concord—several thousand of each. They have been planted in all sorts of weather. Three weeks ago, I planted two thousand Delaware and two hundred Iona. The ground was very dry at the time, and for ten days

not a drop of rain fell, and there was no dew at night; everything in the fields was parched, burning up from want of rain, yet with the exception of three small plants, that I did not expect to live when I planted them, the vines are to-day all growing finely.

Yesterday morning, I transplanted four hundred Delaware that had been left too long in the bed, many of them one foot high. The thermometer showed intense heat, 98° in the shade; the plants drooped a little, but to-day look as fresh as ever, though the heat is the same as yesterday's, and the sun shines equally as bright. None of these plants have been shaded or protected in any manner.

My method of planting or transplanting is this:

1st. I throw up the ground into beds four feet wide, pulverizing the soil thoroughly. I plant three rows in a bed, one foot apart in the row. The plants taken from the sand of the propagating-bed are carried in anything that will hold water enough to cover the roots. The planter, taking a plant in one hand, with the other makes a hole in the bed deep enough to take in all of the old wood, and large enough so that the roots will not want for room.—Then, setting the plant in place, a boy pours in water, filling the hole nearly full. The planter, holding the vine in place with one hand, draws the fine soil quickly around it with the other. The water, when first turned in, floats all the little roots out to their full length; then taking up the fine soil, deposits it around them in the most perfect manner, and the vine is planted.—Care must be taken not to press down the earth around the plant, and also that not a drop of water comes to the surface, either of which will cause the soil around the plant to become hard, and the vine will die of course.

Vines planted in this manner need no protection, except from high winds; and, if the work is carefully done, and the plants not too large, they will not even stop grow-

ing. They should be carefully tied to stakes. I have, as I said before, planted several thousand within the last two months; none have been shaded or protected, and I have not lost a single vine that had fair roots when taken from the hotbed.

I not only plant vines in this way, but everything, from cabbage and tomato plants up to evergreens six feet high. I don't wait for wet weather, or for evening, to set out tomato, cabbage, or the most delicate flowering plants. I set them at mid-day, and in the dryest hot weather. I do not shade or protect in any way, and yet they never fail to grow.

I ordered from Rochester this spring about thirty large evergreens, together with a lot of fruit trees. They were over two weeks on the way, and on opening the boxes, I thought they were past saving.—They were all splendid trees, the evergreens being four and five feet high, but the roots of all seemed to be perfectly dry. I planted them all in this way, using a bucket of water to each tree, and to-day every one of them are growing finely.

I think this is the only way of thoroughly planting evergreens grown in nursery; in no other way can the soil be settled around each little fibre of the fibrous mass.

If the ladies will try this way of transplanting their flowering plants, they will never fail in making them live, and it is much the easiest way of planting. Always graduate the quantity of water by the size of the plant. Take care that the surface around the plant is covered with fine dry soil, and never press the soil down. Let the water settle it, and it will be right—*Never water after planting*; at least, not until the plant is thoroughly established.

This is the way, and the only safe way, of setting sweet potatoes. Never at planting omit water, in hot or dry weather.

Any of the readers of the HORTICULTUR-

IST who may try this method of transplanting or planting, will oblige us if he lets me know of their success or failure.

CHARLES J. M.

Herbemont Vineyard, Watson, Pa.

July 10, 1857

A NEW AGRICULTURAL TURKEY.—Texas correspondent of the New York Tribune, writing from Castorville, relates the following singular story about planting watermelons: "When we had enough to feed ourselves and water our horses about noon on the first, and about three miles from Austin, a superannuated man old enough to be mossy, came up to the fence, and after regarding us for a minute, inquired if we would buy some melons (watermelons). Several of us went with him to his place which was about half an acre in extent. His melons were the largest I had ever seen, but there was one monster loomed up above its fellows like an elephant among oxen. Some one asked the price of it. 'All I want is the price of the chicken, sah!' Seeing no objection about, an explanation was asked. 'Well, you see, sah, early in de spring, when de plantin' time comes I takes a young chickun as soon as his throat gets big enough, feeds that chicken with seven dry melon seeds—just seven—and just as he got dem seven seeds down his throat I kills him, and sah, I plants dat chickun in de middle of de ground.' 'What,' asked one of the party, 'do you mean to say that this is the way you raise melons?' 'Dat is de way I raised dat chickun, sah,' replied the old man, 'and I've raised dat same thing dis forty year, and afore I was into Texas.' We refresh ourselves with some twenty smaller melons whose parent vines had originated in an objectionable place." Who can tell have no ideas of their own?

PARSONS & CO.

Offer for the Fall Trade.

600,000 GRAPE VINES,

Of all the Best Varieties.

Among them are :

DELAWARE.

2 years, transplanted and unusually fine,	\$35 per 100; \$275 per 1000
1 year, No. 1,	25 per 100; 200 per 1000
" No. 2,	20 per 100; 150 per 1000
" No. 3,	\$12.50 per 100; 100 per 1000
Concord,	12.50 per 100; 100 per 1000
Hartford Prolific,	\$25 per 100; 200 per 1000
Mass.,	25 per 100; 200 per 1000

All the vines thus offered are grown without bottom heat, from single eyes of well-ripened wood, and in good, deep soil, not injured by extra manuring.

For list of other sorts, they refer to their Descriptive Catalogue of Vines and Roses. They offer a large stock of very fine

IONA.

No. 1.....	\$100 per 100; \$800 per 1000
No. 2.....	70 per 100; 500 per 1000
Israellia.....	100 per 100; 800 per 1000
Ives' Seedling,	25 per 100; 200 per 1000
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ROSES.

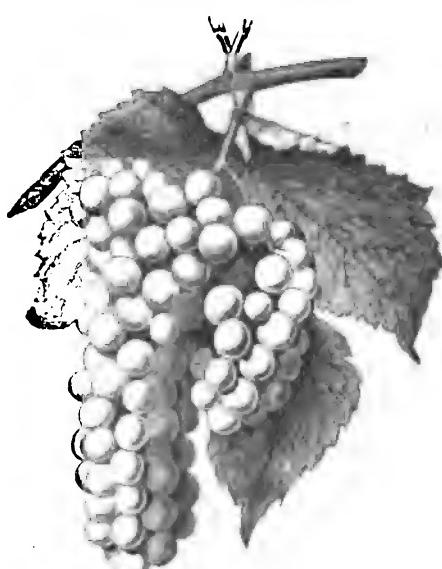
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Journal of Rural Art
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THE
HORTICULTURIST.

VOL. XXI.....OCTOBER, 1866.....NO. CXLIV.

LAWs OF ASSOCIATION IN ORNAMENTAL GARDENING.—CONCLUDED.

BY A. D. G.

THE reference made in a former article to some of the associations of trees and flowers, will suffice to show that the work of planting and training them may be made an interesting and elevated employment. Some persons have no love for gardens. A splendid equipage, costly furniture, sumptuous entertainments, and a surplus at the bank, are with them the chief good. With others, gardens are places of mere amusement or sensuous gratification. What more comfortable than to lie outstretched upon a velvet lawn, beneath a spreading shade-tree, regaled with the sight of brilliant flowers, and half intoxicated with their perfume? And then, gardens are fashionable; no gentleman's place is complete without one. Others have no higher conception of gardening than as the mere mechanical operation of laying-out surfaces in artistic shapes, planting them by rule in some conventional method, and embellishing the whole with works of art.—But, rightly viewed, it is something more than this. It is dealing with associations

at once sublime, tender, and beautiful. It surrounds us with the past as with a continual presence. The great and good of every clime and age are here again, and repeat before us the words and actions of their daily lives. A thousand fancies flutter amid the branches over our heads, and nestle in the flower-cups at our feet. We hear "the voice of the Lord God walking in the garden," reminding us of his continual presence and fatherly care. We find a new charm added to domestic life, which grows stronger with every passing year, and makes home the full realization of its sacred name.

The necessary inference from what we have said is, that the principal of association should be regarded in all attempts at ornamental gardening. It is not enough for us to set out a few of the most common trees and plants which are of rapid growth and easy culture. The ailanthus, maple, horse chestnut, and silver abele are excellent trees; the cabbage rose, lilac, and syringa are pleasing shrubs, and should be

universally planted; but these alone will not constitute grounds well furnished.—Something more is wanted than trees enough to occupy a given space, and afford a given amount of shade. We want those which are truly fit and beautiful, and those likewise which are interesting from their suggestiveness. The balsam fir, for example, is a good and serviceable tree; but, where the climate will permit its culture, we should prize the Lebanon cedar more highly. For the same reason, we would plant the oak in preference to the button-ball or bass-wood. The syringa and lilac are handsome, but we would not fail of the hawthorn, the holly, and the yew. The verbena and petunia are gay and desirable flowers, but we would not neglect the violet, the myrtle, and the bee-haunted thyme.

Why should not one's grounds contain as great a variety of trees and plants from different countries and different climates as the space will permit—at least so far as this can be done without sacrifice of essential fitness and propriety? A daily walk in such grounds would be a daily delight. It would bring before us many of the rare and beautiful products of other lands, without the exposure of fatigue and travel. It would give us some little idea of the richness and variety of the productions of the vegetable world; and it would furnish a pleasing study to note well their peculiarities of form, structure, and growth, as compared with those of our own neighborhood.—That some of these trees and plants would require more pains to cultivate them than the common growths of the wayside, would be no objection. This very care would attach us to them by an additional tie. Nor would we object to this mode of planting grounds because it requires more study and reflection; for here the pursuit of information would bring its own reward. A garden scene so constructed would be something above the tangled mass of a wild forest; something better than the formal and monotonous rows of trees and bushes

so common in our door-yards; it would be a scene in which the scholar, the poet, the man of sensibility, the christian, would each find something to quicken his thoughts, and yield him a perpetual delight.

In view of the foregoing thoughts, we will venture a criticism upon a certain canon of writers on landscape gardening. It is commonly recommended that, in choosing a site for a country residence, one should be selected, if possible, that is already covered with native trees. This would answer very well if trees were wanted only to furnish an abundance of shade; but this is a small part of their use. They are wanted for their individual as well as combined beauty; for their fitness, and for the associations connected with them.

When forest trees have grown in open situations, detached from one another, they are sometimes all that can be desired on the score of beauty; but when such cannot be found, it is much better to choose a naked site, cultivate the soil thoroughly, draw up a well-considered plan according to which the grounds shall be planted, select trees and shrubs suited to the place they are to occupy, and then rear them with all possible care. In a few years they will present to the discriminating eye a finer scene than could be produced by any number of tall, naked denizens of the woods.

But, however this may be on the score of simple beauty and fitness, we maintain that the aboriginal growth of the soil till now uncultivated is deficient in one important respect—the charm of association.—The wild forest trees of Massachusetts have not the interest which attaches to the ancient trees of Cambridge and the Boston Common. The venerable elms overshadowing the New Haven Green are more venerable than elms of the same size and age in the woods of Connecticut. The trees around our oldest family mansions derive their chief interest from the domestic history which has transpired beneath them.—

We maintain, accordingly, that, in choosing a site for a country dwelling, it is not important to select one already covered with forest trees. Such trees have no history. Their associations, so far as they have any, are those of savage life, or of a wild, un-peopled solitude; and, were a new home established among them, there would be no proper connection between them and the life experience of that home.—Pleasant, indeed, it certainly would be, on many accounts, to have trees already grown about one's doorway—it would save a vast deal of time, and labor, and care; but a thoughtful man would always feel that there was something out of keeping between the new home and the old trees; that it would take many years to civilize them; and that at best their early history would be barren, utterly void of any human interest. He would rather plant his trees when he plants his house, and let both grow together, and have a common history.

And here follows another criticism. It is deemed important by many, in preparing new grounds, to remove into them very large trees, for the sake of producing an immediate effect; or, in other words, of giving to a new estate, the appearance of an older one. This work is often accomplished by taking up the trees in winter with huge balls of frozen earth attached to the roots, raising them by means of machines constructed for the purpose, and hauling them to the desired place by powerful teams of horses or oxen. Operations of this kind have been performed in England and in this country with a good degree of success. Undoubtedly, there are some advantages in this plan, yet it is open to objections. To say nothing of the mutilation of trees thus removed, from which they seldom fully recover, trees thus planted lack the associations which should belong to them; nay, they acquire some unpleasant associations. There is a species of felt deception about groves thus made to order by machinery. They do not belong

there; they did not grow there; they are interlopers; they were brought thither while men slept, by some kind of trickery, or at least by some artificial process, and set up full-grown to impose on all beholders.

In speaking of ornament in architecture Ruskin says that its agreeableness arises not only from its abstract beauty, but also from "the sense of human labor and care spent upon it;" from the fact that "the record of thoughts and intents, and trials and heartbreakings, of recoveries and joyfulnesses of success" has been associated with it. "As a woman of feeling would not wear false jewels, so would a builder of honor disdain false ornaments." He should use ornaments "wrought by the human hand, not those cast in moulds or cut by machinery to imitate the work of the hand. He should abhor all short, cheap, and easy ways of doing that whose difficulty is its honor." So say we in reference to landscape gardening. Pleasant as it might be to have our trees and shrubs brought and planted for us full grown, as by magic, we should hesitate to accept the gift. They would be false, machine-made ornaments, entirely wanting in any flavor of human thought, and labor, and care.

If a few old trees happened to occupy our chosen building-site, we would not cut them down; rather would be thankful for their refreshing shade while trees of our own planting were growing; but we would not transplant old trees into our grounds. We would select young trees and shrubs; some for their native beauty of form, branches, leaves, and flowers, others for their associations, whether historical, poetical, domestic, or otherwise. These we would group together into one harmonious scene. We would do this work, so far as possible, with our own hands—at least, it should be done under our personal supervision. Our own life should be mixed up with the life of each tree and plant. The hearts and hands of those we love should be intrusted and occupied in their cultivation. Day by day,

and year by year we would watch their progress, nursing their feebleness, rejoicing in their healthy growth, until at length we might sit beneath their expanding boughs, or pluck their abundant flowers and fruit. Such a garden would be worthy of the name. Its very ground would be hallowed. On the branches of every tree would hang

gentle thoughts and pleasant memories. Its shrubs and plants would suggest ideas as varied as the forms of their leaves, and fancies as airy as the fragrance of their flowers. Such a garden would be a charmed spot, because linked with so much that is deeply and permanently interesting to the mind and heart of man.

A CHAT ABOUT EARLY SUMMER APPLES.

BY FRANK AMON.

As I sat in my library a few mornings since reading the *HORTICULTURIST*, my friend Bradford came in, with the pockets of his coat well stuffed out with apples.— He looked like an old picture I have seen of the jolly farmer, laden with good fruits from his orchard for his neighbor's children. That picture, by-the-by, I have often thought was got up "on purpose," as they say, because its indication is certainly one

that shows the wishes of the man to so imbue his neighbor's children with the love of fruits obtained honestly that they would urge their parents toward planting of trees, or in any event to plant for themselves, if ever they grew to be men; but as such farmers are not the ones we have now-a-days, why —

But this is nothing to what my friend Bradford wanted, which came in this wise:

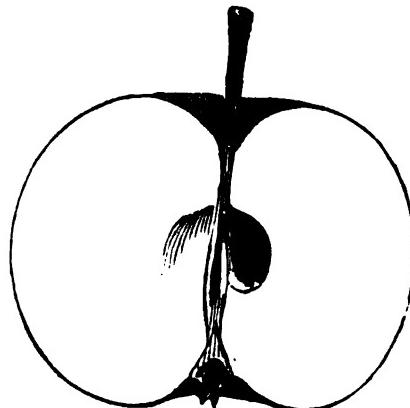


FIG. 112.—*The White Juneating.*

"I am about to plant some early apple trees this fall, and I have been looking over books and catalogues until I am all mixed up. I can't, or don't want to plant but a few trees, say one of a sort, but I want those the best. I have been collecting samples, and here I am to discuss them with you."

"Thank you," said I, "just what I want too; for, although I have been looking over

fruits, and growing and eating them many years, there is nothing I relish so much as a good sensible revision and taste of the subject."

"Here, then, is one I have found among the very earliest to ripen, and, to my taste, a fine little eating apple—the White Juneating."

"Yes; an old apple, too much neglected, mainly because the trees, when young, are slow of growth; but when they are once in the orchard they seem to grow well—not, it is true, as rapidly as Tetofsky or Red Astrachan, but as well as Early Harvest; while the fruit, although small, is generally fair, and, from its earliness, commands a high price in market. It is not

as tender as Early Harvest, and bears shipping better."

"Here is Tart Bough, or one I obtained under that name."

"Right; the tree is a good grower and bearer; but as it does not ripen until after Early Harvest, that variety, which we can now see by comparison, is better, and has superseded it. The Early Harvest, how-

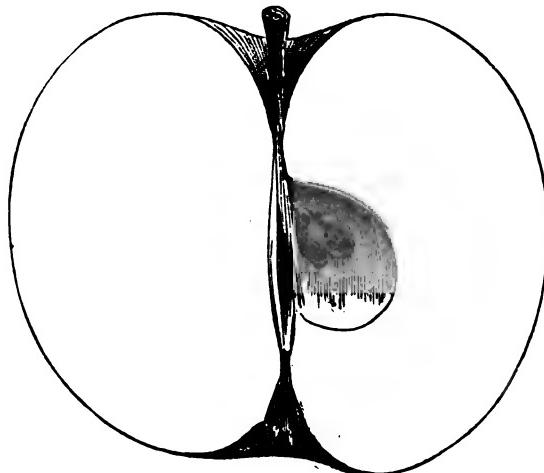


FIG. 113.—*Early Harvest.*

ever, requires good and abundant food in the soil, in order to grow good fruit; but in good strong soils, we have no more delicate early apple for table or cooking. As a market apple for shipping purposes, however, it does not answer, as it is too delicate; and as the tree does not suit all soils, it will not do for extensive planting. One tree or more on every man's place can be manured and made good; but we have so many sorts now, that in ordinary cultivation, will pay better even than this under high culture, as to make it only an amateur's fruit. You must plant of it, however."

"Well, next I have one called Irish Peach."

"Aye; showy, but watery; tree a fine grower; not worth our planting."

"Next, I have two old sorts, the Hagloe

and Summer Rambo; and—yes, here is also Early Red Margaret."

"True, old sorts; and it is to be regretted that the Hagloe has been so neglected. If you can get a tree of it, plant it; for it is a fine showy fruit, of more than good quality; and a good bearer. The Summer Rambo, [or Rambo Franc, becomes often-times, as you see this is, quite mealy and dry. The Early Red Margaret is a right good apple, but not rich enough in its flesh for an amateur apple: and for marketing, the Tetofsky which you have there will return more money. This, in fact, for marketing, deserves a first place. It is grown around Columbus, in Ohio, as the Fourth of July apple. It is a Russian apple; the tree a strong vigorous grower, seemingly adapting itself to all soils; bearing very young and abundantly a very handsome,

rather acid, but pretty good fruit; very valuable at that season for sauce. If you have ground to spare, you will find this a valuable sort for early use in the kitchen; and if you were going to plant for market

profit, this and Red Astrachan would give you more return than any other two early sorts. The specimen here is not a full-sized fruit; it is certainly one-quarter larger, and generally very regular, fair, and handsome."

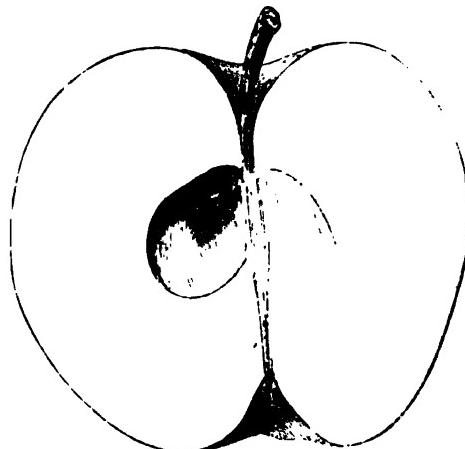


FIG. 114.—*Tetoffsky.*

"Next, I have summer Queen."

"True; and a right good old apple, and in many sections yet regarded among the best and most profitable. Were you planting in a part of the country where this variety was proved universally successful, I

should say plant it in preference to Williams' Favorite, Early Pennock, Red Quarrenden, or Monarch, all of which are good, and only good, in their special localities—The Queen, Pennock, and Monarch, you see, are of a similar character of flesh:

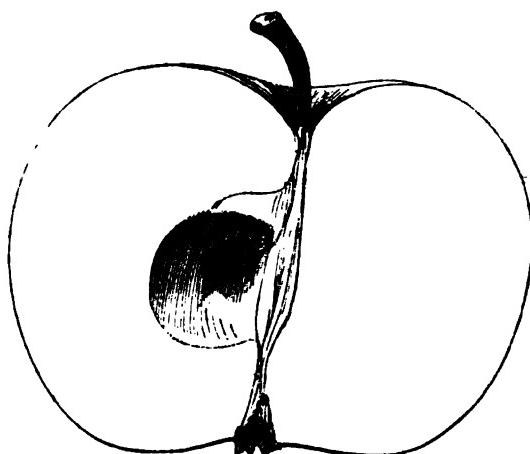


FIG. 115.—*Townsend.*

while the Williams and Quarrenden are quite different, but no better."

"Well, here is another that, to me, is no better than the Queen—the Townsend."

"Yes; not yet quite ripe. I have not often met with it; but when I have, its quality has been no more than second-rate; and coming, as it does, where there are so

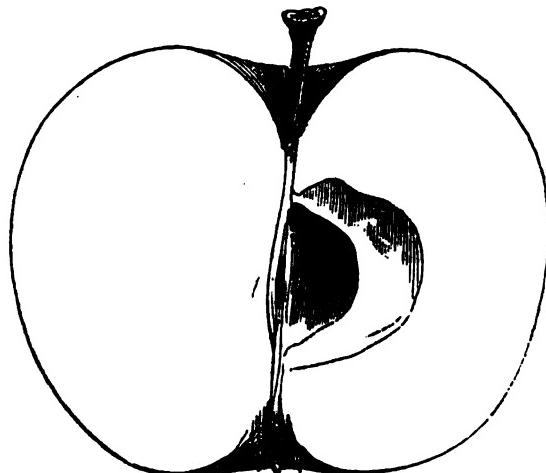


FIG. 116.—*Red Astrachan.*

many extra quality apples, I have not valued it highly. The sample we now have is firm; but I remember it fruiting well with me one year, and proving quite dry

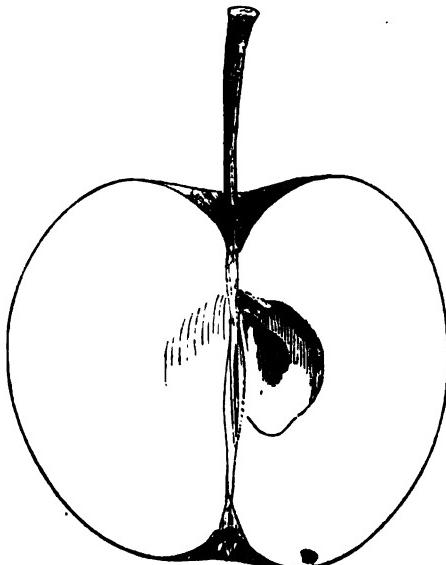


FIG. 117.—*Early Strawberry.*

and mealy. It is a large showy fruit, yellow and red, and in its native habitat may be valuable."

"Well, here are two that I suppose you think should be planted—the Benoni and Red Astrachan."

"Yes, they are both among the best.—Your samples of them, however, like your Tetofsky, are too small, for I have seen bushels of the Astrachan fully one-quarter larger. This fruit (the Astrachan), however, is not truly a table apple, but so valuable for cooking, and passable for eating, that you must have it. Benoni is one of the table apples, and for private or for market garden quite desirable."

"Next, I have early Strawberry, or, as the man who gave me the specimen called it, Red Juneating."

"Good, good! a capital apple to plant for your own table. The trees are handsome growers, great bearers, maturing the fruit

by degrees, so that it is one of the longest varieties in eating that I know; not, perhaps, a *first-class* quality, but I find children, who are said to know good fruit, never fail to eat the Early Strawberry."

"Well, here is Bevan and Kerry Pippin."

"Yes; the former tough as leather; and the latter as pretty, almost, as the Strawberry, but not half as good. Let's cut and outline the Pippin, for the purpose of remembrance, for it is not often that I now meet with the old fruit once familiar to me. The Kerry Pippin is certainly more than good in quality. It is a good bearer, and to one desiring to plant a fruit to transport

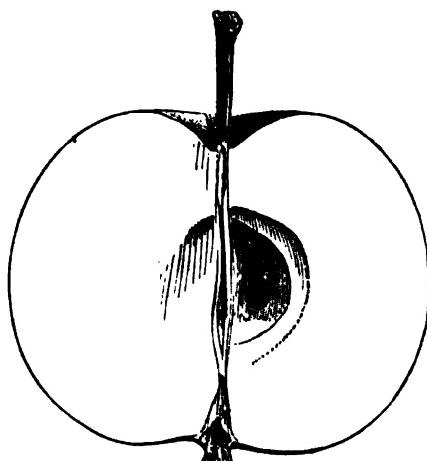


FIG. 118.—*Kerry Pippin.*

long distances, and preserve its character, we have nothing its superior. It, however, is not sufficiently acid for cooking, and it is too firm and crisp to please our American tastes, and therefore will probably never more be grown."

"Here are four sweet apples."

Aye, Sweet Bough. Indispensable, large; a regular, not great, bearer; tender and delicate; sweet for eating or baking; must plant one tree, at least. Then you have High Top Sweet, of the books; or

Sweet Summer, of Southern Ohio; and Sweet June, on West. Many regard it as indispensable; but I think this one, Golden Sweet, preferable. It is larger; the tree is a great bearer; the fruit is a rich sweet, perhaps a little too dry for the table, but fine for baking. If you were growing stock, this variety would pay well to plant by the acre; but for family use, one tree is all you want. The last you have is one called Early Sweet; and, so far as I know, originated with W. C. Hampton, in Ohio,

and has never been figured. It is deliciously sweet, juicy, and tender. If you can get a tree of it, plant it.

"What more have you, for I see your pockets are yet comparatively full."

"Oh; quite a number of sorts. Here are

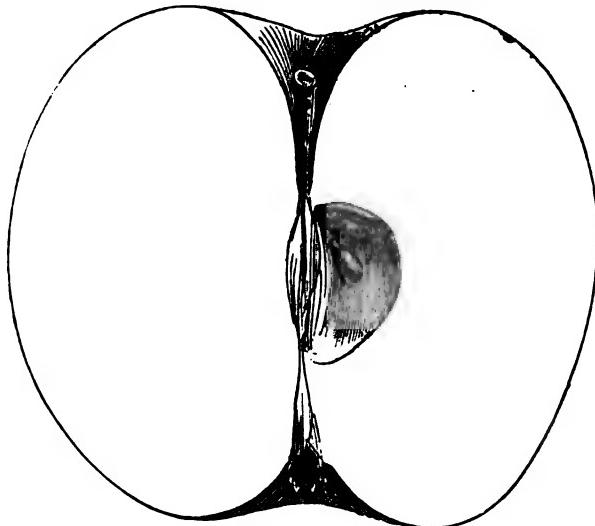


FIG. 119.—*Sweet Bough.*

two—the Red June and the Penn, or William Penn."

"Of the first I know a little. It is the popular apple south-west, in Illinois, Mis-

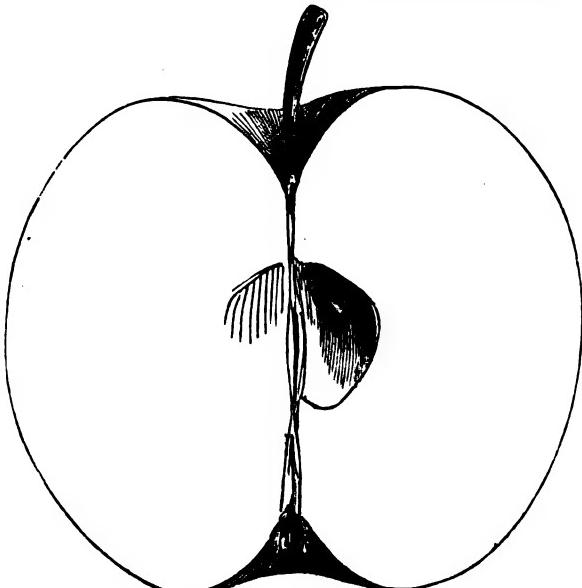


FIG. 120.—*Golden Sweet.*

souri, &c.; but east or north it has made little or no headway in favor. In quality, it is about equal with Williams' Red, and, like that sort, to be kept in its own locality.

"The Penn, or William Penn, is another local apple, probably, to be kept in its own section of origin, for it has been now twelve or fifteen years before the public, and makes no progress in favor. What next?"

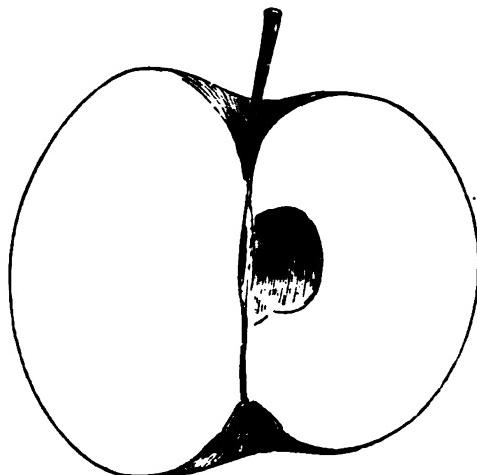


FIG. 121.—*Early Sweet.*

"Three with an early attached—Buffington's Early, Parson's Early, and Garretson's Early."

"The first is a tip-top little apple as you may taste, but the tree is not a good bearer. The second is too acid; not yet, as you see,

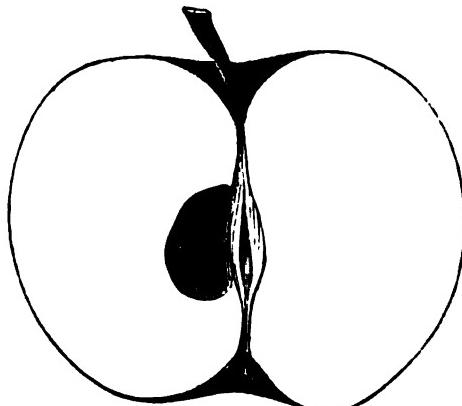


FIG. 122.—*Early Joe.*

quite ripe; of course there is now no comparison, for the first is fully ripe, and this is not so. The third is a quite good apple; comes after Early Harvest, and is not as

good, but the tree, I think, is a better grower. What more?"

"An old sort highly praised, but I don't find any good fruit."

" Ha ! the Drap d'Or ! An old sort, truly; and, so far as I know, never yet a good one. The fruit, like this sample is ripened mostly by an insect in the early season; and during the last of September, when it should be among the best, it is nothing as a table apple compared with the Garden Royal; or as a cooking or eating as compared with Gravenstein or Myers' Nonpareil. It is time it was laid on one side."

" My next is a little fellow—Early Joe."

" And a nice little one it is, too; rich as a pear; delicate and crisp, yet tender; juicy and handsome as a peach; the tree a great bearer. It has two rivals—one the

Summer Rose, earlier; and the Garden Royal, later. Here you have them all before you; and while one is in a good state for eating, there is enough in each of the others to tell you that your amateur plot of apples cannot do without them. We will outline the Early Joe and the Summer Rose, and leave Garden Royal for another time when we look over early fall apples. Have you any more?"

" Yes, here is Trenton Early."

" Pooh ! old English Codlin; good for cooking only."

" Next, Summer Golden Pippin."

" Pooh ! again, I say; good for nothing."

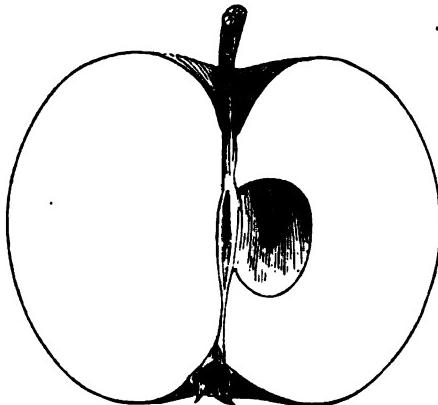


FIG. 123.—*Summer Rose.*

" Sops of Wine."

" Samples not quite ripe, but a capital little dessert fruit. Some good judges think this should be in all collections, no matter how small. I confess that, while I like the little fruit, I had rather have Early Joe; but if I had room for two trees to ripen about this time, I would prefer one of each to both of Early Joe."

" Only one more, and my pockets are empty."

" The Sine Qua Non, although the last of your lot, is nevertheless one of the good fruits in quality—in pomological language, probably, it would rank best—but unfortunately the tree is a poor grower, and not a good bearer; therefore, however

good the flesh of the apple, we must pass it, because it gives no satisfaction to the owner, either in looking at its growth, or in its number of fruits."

Having now, Messrs. Editors, looked over my friend's list of apples, I want to ask who there is, among our horticultural friends, that is making the apple, and the producing of new and valuable sorts, a special study ?

Everybody eats the apple, and everybody who owns land enough for a tree to stand upon plants the apple, have done so, and will continue to do so.

As a crop, the apple pays not quite as soon as the grape, but, when once in bearing, with far less labor.

Now, why should not some one fall in love with the originating a new *early* apple. We want a *very* early one; good size, bearer, and all that sort of thing. I suggest to some one the impregnating Early June-

ating with Tetofaky, or *vice versa*, and test the result. Who will try their hand? An early, very early sort, would be a fortune to the grower.

LOW PRICED COUNTRY HOMES.

FROM WOODWARD'S ANNUAL OF ARCHITECTURE, LANDSCAPE GARDENING AND RURAL ART.
FOR 1867.

We give our readers some specimen pages from this new publication. This work has been specially prepared to meet a strong demand for low priced Cottages, Out-buildings, and plans for laying out small plats of ground. The book contains

176 designs and plans in all departments of rural art, and its universal circulation would be of vast benefit to the country. We have spared no time or expense in preparing and procuring practical plans; have had them engraved with great care,



FIG. 124.—

and the work has been printed in the best manner on fine calendered paper. Every reader of the *HORTICULTURIST* should have a copy. It will be published annually from this office, and will be a thorough and practical work in all respects.

We extract the following approximate method of computing the cost of buildings:

COMPUTING COST.

A simple and rapid plan for estimating the cost of any building is by comparison.

This plan will do very well to approximate roughly to cost. A better and closer one is to ascertain the cost per cubic foot. Thus, a house 40 feet by 40 feet, and an average height of 30 feet— $40 \times 40 \times 30 = 48,000$ cubic feet, cost \$7,200, or fifteen cents per cubic foot. Then a house containing 57,000 cubic feet, at fifteen cents, would cost \$8,550. Where all conditions of comparison are equal, such as equal



FIG. 126.—*Farm House.*

facilities for buying, equal advantages in capital, credit, good management, etc., one can very closely, by this last method, as-



FIG. 127.—*Barn.*

certain about the cost of such a building as he proposes to erect.



FIG. 128.—*Bird House.*



FIG. 129.—*Sca'.*

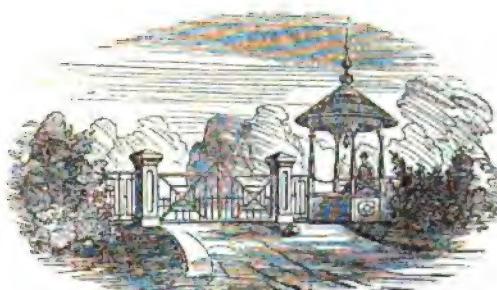


FIG. 130.—*Entrance Gate.*

NOTES ON MAGNOLIAS.

BY F. R. ELLIOTT.

IN my practice of landscape gardening during the past twelve years, I have planted out many dozens of magnolias. They have made the first season's growth apparently healthy. Some have continued a second summer, and a few of my planting ten years since yet remain; but the majority of them have died and their places supplied with some other variety of tree. I have queried why this should be so, because most of the varieties so planted were perfectly hardy, the trees perfectly healthy, and, as a rule, made the first season a healthy and abundant growth.

Now, in the practice of my profession, in making designs for planting grounds, with a knowledge of the beauty of flower and foliage possessed by the Magnolia family, I desire to introduce more or less of the varieties; but a second thought occurs, relative to their durability, and I frequently substitute some other tree, when I would have preferred a Magnolia.

Loudon advises planting only of pot plants, because of the delicate nature of the roots; but when a plant has taken well in the soil and made a healthy growth of one, two, or even three seasons before dying, I cannot see any special reason for preferring a pot-plant. As I have said, I have queried why, after a season or more of healthy growth, they should die, and have looked about me for the cause. We are taught that the Magnolia will only do well in sandy loam, or a light, well-drained soil, and with this view I have, when I could, arranged my planting of the Magnolia in such portions of the grounds as were of light, dry, sandy or gravelly nature. Now, when looking about among the best trees of Magnolia in gardens, I find one of Soulangea in a light, sandy loam that is twelve or more years old; blooms abundantly every year; is healthy and vigorous, but

while it is only in apparent light, sandy soil, a close inspection reveals that water percolates from springs through the soil underneath at about, say three feet depth.

Again, in grounds once possessed by myself, there are growing some very healthy specimens of conspicua, tripetala, etc., and the soil a poor, gravelly-clay loam, that, before being cleaned and opened to the sun, was termed wet. There is no underdrainage, and yet the trees do well.

Again, trees of *Glauca* and *Macrophylla*, planted ten years since, in a barren, poor gravel, but resting on a bed once a swamp (for it is made ground by grading and filling with the gravel), and where water stands nearly the entire year round within eighteen inches of the surface, are growing healthy and vigorous. These observations, with some others of similar nature, together with the appearance of trees grown by Prof. J. P. Kirtland, by budding on the *Magnolia acuminata*, lead me to conclude that while the *Magnolia* may start and grow most readily in a light soil, yet, unless there is moisture reached by its roots during midsummer, its vitality is much impaired, and it is liable to die on approach of any extreme change of temperature.

The budding or grafting of *Soulangea conspicua*, *glauca*, &c., on the *acuminata*, our native wood tree, here commonly called cucumber tree, has been practised by Professor Kirtland, with complete success. In his grounds now stand, probably, the largest *Magnolia glauca* in the United States. It is grafted on the *acuminata*, and at a rough guess, is thirty feet high and about the same in diameter; it is yearly covered with bloom and ripens its seeds perfectly. Several of the *conspicua*, *soulangea*, *longiflora*, *purpurea*, &c., which budded on the *acuminata*, have made growths already double those of the same

varieties on their own roots. These items, connected with the facts that the *acuminata* is often found growing in our clay lands, even where before being cleared up, the appearance is as of a wet section of land, lead me to suggest to our growers or the

magnolia for sale—the working of them in the *acuminata* stock. It is well to say to buyers of the magnolias that they had better pay high prices for a plant budded as *acuminata* than to have a seedling as a gift.

THE BIRDS OF BRIGHTSIDE.

BY W. WAYBRIDGE, ESQ.

WHEN I came to live at Brightside, one thing struck me as peculiar: there was no bird songs, no music. The ten-acre lot, on the western side of which the buildings stand, was almost nude of trees, and the forests swept around at a respectable distance. The house had not been occupied, the land had not been tilled, since the commencement of the war.

I had been living in a village famous for its shade trees and its birds, and on coming to Brightside in the spring of 1865, my heart sank within me when I found there were no birds; no morning songs to welcome the new day; no woodland vespers to soften and to sweeten its decline. I regretted having signed the deed which made the little kingdom mine. There was no music!

It is true that now and then the scream of blue jay, or the croaking of a crow, would reet the ear from the distant woodlands; robin would, once in a while, come and sit upon a twig of a wild cherry tree, and sing cheerful song to me; and a phoebe, solitary and alone, did return to her nest in the barn cellar, and, by her peculiar note, make deeper still the feeling of loneliness and of isolation which came over me. Save here and there a slender or discordant song, there was no music.

But I read again "Ten Acres Enough;" took heart; put in the plough, the spade, the hoe, the crop—peas, beans, melons, corn, hops, cabbages, cauliflowers, grapes, and strawberries. I set out trees around my house and barn, and along the road side

for some sixty rods or more. I filled my front yard with clambering vines and flowers. I spent the season—myself and son—in improving and beautifying the place. I put six of the ten acres into tilth; and thanks to my peat meadow, and to Him who made the benefaction, was enabled to send some things to market, and to keep the buckets in the buttery (excuse this last old-fashioned word, the alliteration would not come without it) full at home. And what do you think, Mr. Reader? Why, when the present spring opened, along with it came, as welcome visitors, I assure you, the merry, heart-inspiring birds. It would now do your heart good to hear them salute the morning by their gleeful songs; to hear them trolling out their melodies still, until the veil of evening is completely shut. A robin has built her nest in an old elm beside the road, and sings as if her breast were made of music; the bob-o-link sets up its frolicsome rigrmarole in the meadow below; an oriole sings daily near my window; a bluebird has built its nest just beneath the handle of an old pump opposite, and now sits chirping on the top of it; a sparrow, indeed, has chosen a vine directly beside the most frequented door, for safety during incubation—we do not keep a cat—and what with the sweet song of the meadow lark, the notes of golden robin, cherry-bird, yellow-bird, woodpecker, flycatcher, king-bird, yellowhammer, and blue-jay, interblending with, now and then, in damp and quiet weather, a pleasant call of "more wet," from Bob White—*Perdez Virginiana*

—we have music enough, and better than from lute or sackbut, for the morning; and when the “evening shadows prevail,” the brown thrush—*turdus rufus*—most voluptuous of American vocalists, takes up its “amorous descent” from the topmost twig of yon tall birch tree; while the wood-thrush—*turdus mustelinus*—from the bosom of that clump of alders, charms me with its silvery cadences; and the whippoorwill winds up the day, and startles the dull ear of night by its weird-like and mysterious song.

Now, what has brought these birds to Brightside? Ploughing up the ground? But there was food enough for them before. What has called them around us? Our own music? We have been too busy to make music. What, then, has gathered them? The love of man? Yes, I believe it. Birds are social. They do not frequent the deep and silent forest. They love the habitations of men. They love the garden—its seeds, undoubtedly; but they also love the men that work in it. They have a kind of human as well as humanizing nature, and they sympathize with human nature. They build just as near to us as they dare to build; they follow us in our

journeys; they settle where we settle; they toil for us; they destroy myriad insects that else would injure the productions of the garden; they sing sweet songs to us; they make Brightside still brighter; Paradise still nearer, and the steps to still lighter.

Sitting underneath an old apple tree in his garden, late one summer evening, Mr. Webster entertained a group of eager listeners with his views of coming national events, when suddenly a robin broke forth into a song above the statesman's head. He stopped and listened to its note, and then, as if it were an angel sent from God, he rising, said, “Gentlemen, that robin always comes to me at night, and sings to me of my poor son! Let us retire.”

From out another sphere, these birds bring messages of love to the attentive soul. From the gardens of the Hesperides they come to soften toil, to waken praise; to lure us by their music, stealing through the flowers of such fair parades as we, by the aid of your good HORTICULTURIST, manage to make below, to the music of the flowers of the resplendent Paradise above.

Brightside, near Billerica, Mass.

PULVERIZED CLAY AS A REMEDY FOR MILDEW ON THE GRAPE VINE

BY VITICOLA.

In the HORTICULTURIST for August there is an article by P. Lazaris of Athens (copied from the *Floral World*), in which dry clay or any pulverized substance is recommended as a remedy for mildew.

Have we any experience beyond that of Mr. Lazaris? His experiments are certainly very fair; but then we must remember that a few cases of cure will not establish the character of any medicine.

The proposition so confidently set forth is, that “any substance, dried and pulverized, which does not injure the foliage or the fruit of the vine, cures the disease of

‘oidium,’ with which it is affected. It is because of the same qualities that pulverized sulphur produces the same effect, and not as a specific, as is generally believed.”

Now we have in our mind a vine which was every year afflicted with mildew. It grew within six feet of a public road in a large city, and in dry weather it was always well powdered with pulverized road dust. But this dusting did not prevent the mildew. And we are aware of one or two instances in which vines were dusted with finely powdered gypsum or plaster without warding off the evil.

It is curious to observe the very opposite opinions which prevail in regard to certain subjects. While one man announces, as a new discovery, the use of powdered earth as a remedy for mildew, some of our older authors caution us against stirring the soil of the vineyards during dry weather, while the grapes are maturing, for fear of inducing disease by the dust which unavoidably settles on the vines.

We have now in progress a series of investigations concerning the action of sulphur on mildew. The subject is a difficult one, but the results promise to be interesting and important. Meantime, we would offer the following note quoted from Allen's "Practical Treatise on the Culture of the Grape," which goes to prove that sulphur acts as a specific poison to fungi aside from its mechanical action as a powder. In this case, as the reader will observe, the sul-

phur was not applied directly to the vine.

"Nathaniel Silsbee, Jr. Esq., informs me that in his graspery, which is a cold house, he covers the floor twice every summer, with sulphur, and recommends its application in the middle of the day; as, at that time part of it will rise and settle on the vine, but in such small particles, as to do no injury. He has found this efficient in preventing mildew."

In conclusion, we would suggest to the readers of the HORTICULTURIST that they give their experience on this subject.

Who has tried plaster or similar powders, and with what result?

Have vines growing near roads been found less liable to mildew than others?

An extensive series of replies to these questions might throw some light on the subject.

GRAPEVINE MILDEW.

BY HORTICOLA.

In the August number of the HORTICULTURIST, there is an article on the cure of the Oidium, by P. Lazaris, of Athens, in which he advises to dust the vines with dry clay instead of sulphur. He says he was led to the use of that substance by the fact his own observation had established, that vines lying on the ground were never mildewed. Although it might be difficult to comprehend the similarity of the condition of a vine lying on the ground, and of a vine dusted all over with powdered clay, yet this question is insignificant in the face of the fact, that grapevines lying on the ground are, at least in this country, much more liable to be affected than those which are tied to poles or trellises.

It is my custom never to tie up cuttings, from single or more eyes, during the first summer, being convinced that, by checking the upward tendency of the young vines, the root acquires much more strength. I

continue this treatment also during the second year, after old vines have been planted in their several places and pruned. There is no trace of mildew on any of my vines trained to stakes or trellises, for I apply sulphur so freely and frequently that all spores of it are destroyed as soon as they are formed. Not quite a week ago however, I was walking through my grounds with two friends, when we simultaneously noticed those light-colored spots produced by mildew on the leaves of a number of young Crevelings and other native varieties. They had proceeded from several young Yeddos. There is no variety more subject to mildew than the Yeddo. Now all the vines so affected are lying on the ground. One of the two gentlemen mentioned observed that it had been his belief that vines lying on the ground were exempt from mildew. He was as glad as he was sorry that his belief had been exploded. Many of the

readers of the *HORTICULTURIST* will, no doubt, have had the same experience; but, should it be desirable, I am ready to give the names of both of the gentlemen.

This shows that the premises of Mr. P. Lazaris are not founded on fact. As to his inferences, it may be interesting to make some remarks by stating what has been done by others in regard to road dust or powdered clay.

The readers of the *HORTICULTURIST* will permit me to premise the following statement:

Requested by the Hon. Isaac Newton, Commissioner of Agriculture, to write a treatise on the sulphuration of the grape-vine and its results, both in this country and Europe, I addressed a large number of letters to the most celebrated vine-growers in France and Germany, in order to obtain full information covering the whole subject. I am already in possession of material so ample and extensive, that I could easily fill many pages with it, though it is not complete yet, as several gentlemen addressed by me cannot make replies satisfactory to themselves before the next autumn. I will, therefore, not touch it at present, but reserve it for the treatise, to be printed in the agricultural part of the *Patent Office Report*. What I give here is extracted from various literary sources, easily accessible to all. It is not my intention to accumulate facts.

According to a communication of the *Prussian Correspondent* of the year 1857, dust from the turnpikes is as efficacious as sulphur in destroying mildew. Mr. Cree-

tien recommended, on the 28th of September, 1857, in the Academy of Sciences in Paris, the same very highly. He says sulphur covers and envelopes the oidium plants so entirely, that the air is excluded, and destroys in this way the oidium. As road dust performs that work better and more thoroughly than sulphur, it is much more preferable.

On the other hand, many experienced vine-growers assert that sulphur acts specifically upon the oidium by dissolving and destroying it. At all events, nothing is used in Europe but sulphur at present, so that even the French Government reduced, several years ago, the duties on it, so as to bring it within the reach even of the poorest vigneron. Road dust has had a chance in France and Germany, since 1857, to supersede sulphur, but it has not been able to accomplish it.

I am very far from impugning the veracity of Mr. P. Lazaris as to doubt the results of his experiments; but what applies to the dry air and serene sky of Corinth, may not apply to our excessive climates.—Oftentimes nearly absolute dryness of the air is suddenly followed by extreme humidity, intolerable heat by chilling winds.

As all my vines have repeatedly been sulphurated, I cannot make comparative experiments. Such of the readers of the *HORTICULTURIST* as may have the opportunity to try clay, will have a claim on the thanks of the vine growing community if they will communicate the results of their operations.

NOTES ON THE AUGUST NUMBER.

VARIETIES OF STRAWBERRIES.—A plain, practical article, descriptive of some of our leading and most popular sorts. The writer has evidently examined his fruits, and doubtless recorded correctly as they appeared to him; but, to make his record of more value, he should have given the soil

in which the several sorts succeeded best. It is now, I believe, pretty generally conceded that a variety will succeed finely in one character of soil, while if placed in a different one, although within a short distance, it will prove almost worthless. Climate, also, is said to affect the strawberry,

naking some varieties a local rather than a general sort. However true this may be, I cannot of my own knowledge affirm; but I well remember, some years since, a long pro and con about the Black Prince—a variety that in some localities was proved of the highest excellence, while in others it was unworthy growing.

Buist's Prize is another, and I think not unlikely Jenny Lind another, as some growers praise it highly, while with others it is unproductive. Our Southern friends will find the strawberry question a mixed one with them, their climate being so unlike that of the North and Middle States.

In connection, I notice in the report of the Wallingsford (Conn.) Community they still hold to the Wilson as their most profitable sort for market.

RURAL ARCHITECTURE, No. 16.—I like this very much. It gives one an idea of home comfort with its porch and veranda; while in its architectural elevation there is an air of refinement and taste, without display of tinsel ornamentation.

NORTON'S VIRGINIA GRAPE.—Mr. Husmann does not say too much in praise of this grape where it can be successfully ripened. It makes a wine heavier than the best clarets, and more nearly to port than any other with which I am acquainted. As Mr. H. says, however, it seems to do better in Missouri than in Ohio, although I have seen it on the south shore of Lake Erie growing and ripening its fruit equally as well as at Hermann. To those about to engage in vine-growing in our Southern States, especially in Tennessee, it will prove of the greatest value.

NEW STRAWBERRIES.—This, like the first article, shows the practical observer, and gives us a truthful statement of the varieties under the writer's treatment. While conceding that the care given was no more than, perhaps, should have been, we must, however be inclined to think it is more than strawberry growers for profit can afford; and, while the varieties may be desirable to the amateur, I venture to predict that not one among those carefully described will be

found five years hence in a dozen gardens in the United States.

DISEASE OF THE VINE, AND ITS REMEDY.—The writer seems to have found what, to himself, appears a certain cure for the diseases of the grape-vine. I hope it may be true; for, although in vineyard culture such powdering three or more times is attended with considerable expense, it is yet better than to lose the whole crop. I confess, however, to be a little of an unbeliever, and to think that the experiments require repeating. If oidium is a disease of the atmosphere, and affecting the vine without regard to soil or vigor of the vine, then a change in the atmosphere might have checked the progress of the disease rather than the use of the powdered clay. If, again, we grant oidium to be a disease of the atmosphere, and attacking only vines in a peculiar condition of vigor, or rather want of vigor, as the ague does mankind, then have we not to go farther back to get our remedy.

PLAN FOR LAYING-OUT FIVE ACRES FOR A SUBURBAN VILLA.—On the whole, a good plan. I should, however, object to so much roadway in front, and should endeavor to mass my trees nearer the approach-gate, with the same view apparent here, viz., to shut it from the house, and arrange for but one roadway, thus giving me more of apparent extent inside, and liberty to present a more park-like character.

SOUTHWARD, Ho! FRUIT CULTURE IN THE UNITED STATES.—The writer truly says, "a large portion of the Southern States is admirably adapted to the culture of fruits;" and, where perfect quiet and order, with less of bowie-knife rule, prevails, our Northern men will doubtless seek and improve the portions of the Southern States best suited to the products that may be found profitable. We Northerners are a go-ahead people. We are ambitious to gain money as well as reputation, but we love the comforts of a quiet home, and a feeling that we can visit from neighbor to neighbor without having to carry a revolver for bodily protection.

That sections of the Southern States are admirably adapted to fruit culture, as before said, is true, but let no man think that fruit-growing is there free from care, or that its returns pecuniarily are any more ready or certain than in our Northern States. Extremes are even greater in the Southern than in the Northern States.—Drought often prevails, as is the case this year, just at the very point when rain is most needed to swell and perfect the fruit. Long-continued rains are more prevalent than at the North, and no man accustomed to the North can labor at the South with anything like the same spirit and ease of the physical frame.

INSIDE GRAPE BORDERS.—“Fox Meadow,” as usual, writes with a racy pen, and I have read this article with so much satisfaction as to wish I could step in and see his inside borders. Like him, I have faith in inside borders, but only for those who know how to treat the vine, and so knowing, perform the labor.

E. W. BULL ON GRAPE CULTURE—No. 2.—In this, there are some, to me, crude notions, one of which is the advice never to prune a vine at time of planting; another is the system of training. It may do for Mr. Bull, but would never do for me.—There is, in the advice not to shorten-in the grape, a clashing of physiology with the practice; and, in the mode of pruning, an extra amount of labor, not compensated with fruit as compared with the simple renewal practice advised by Husmann.

I WILL say to Mr. Merrick that it is my impression his vines will be less subject to injury from late spring frosts, if he will leave them to lay upon the ground, even until after the fruit has set. I am surprised at the comments on “My Vineyard at Lake View.” As Mr. Merrick says, the author *professes* to give actual experience, but how do we know it is anything but fiction. Trot out the author, then we will go and see his place, and, seeing, believe or otherwise in the truth of his book.

CORRESPONDENCE.—With your permission, Mr. Editor, I step over among your

correspondents, to ask of Mr. Phenix an account of the Georgia Mammoth Strawberry.

P. D. O.—My good critic, on a criticism, I have little doubt but that our views of the style of architecture, as adapted to natural surroundings, would harmonize. At any rate, I am glad to have drawn you out in the remarks you have made. My object in criticising the steep roofs and gables was more to check their undue sway and position everywhere, rather than a thought of disowning the style. You ask if the praise by Downing, and other leading architects, of the gothic rural cottage of England—their appreciation of the old cathedrals with their peaks and arches—was a false taste? I reply certainly not. There is a grandeur and beauty in gothic architecture possessed by no other style; and when the style is fully carried out with depth and finish, and the character of the trees surrounding such a building, if a private residence, adapted in their character of growth and foliage to harmonize with it, the section may be a level or not, and the building in good taste.

I cannot, however, believe Mr. Downing were he once again with us, would assent to the tinsel style of gothic architecture in inch pine, painted white, and built on lots twenty-five feet by one hundred feet.

It is this reducing of a lofty order to pigmy ideas that I would particularly complain of.

Again, as our cheap houses—those costing \$1,500 to \$2,000—are mostly constructed with a view to obtain rooms, &c., at a small expense, why should not our architects occasionally introduce more of the Italian or the Tuscan styles? They furnish room, shade, balconies and verandas, to suit the wants to shield from storm and sun; and their cost of construction, compared with room obtained, is less in proportion.

But enough; my object, I think, has sufficiently been stated, and I leave the subject for, perhaps, some future time.

REUBEN.

BOX OR BASKET LAYERS.—THEIR TRUE VALUE AND PROPER USE.

BY VITICOLA.

We have observed some recent notes in the HORTICULTURIST strongly condemning basket layers as unmitigated humbugs. Anything may be a humbug when pushed to extremes, and we freely admit that the impossible hopes that have been held out to the public as baits, to induce them to purchase freely of basket layers, do invest the subject with some of the characteristics of a genuine humbug. For it is possible that while all the promises made about basket layers may be "kept to our ears; it is tolerably certain that many of them will be broken to our hope." It may be true that such layers will "fruit next season." Ought they to be fruited next season? and if fruited, will they bear better than good strong plants transplanted in the ordinary way.

At the State fair in Elmira a dozen years ago a grape grower exhibited a plant growing in a tub or pail and bearing several bunches of very fine fruit. If we remember right the variety was Isabella. Now this was a layer, and a layer *fruited the same season it was made*. As an experiment it was very pretty. As an illustration of grape-growing it was worthless. Plants have been grown in pots, and if this was described as "grapes grown in a tub," it was a verbal truth and an actual lie. So that it was either a very pretty experiment, or an actual falsehood, according to circumstances.

Lest, however, the animadversions which have been so freely lavished upon them and their producers should be applied to basket layers under *all circumstances*, we take the liberty of saying a word or two in their favor.

In his account of the Thomery system Du Breuil says of basket layers: "This is undoubtedly the best mode of propagation, and is that which is preferred at Thomery. Unhappily, on account of the expense at-

tending the transportation of basket layers, the cultivator is often compelled to use the unprotected layers, or chevelées."

But we do not base our conclusions wholly upon either theory or the "authors." We ourselves have had some experience both with basket layers and common layers, although we never bought one of the former. Before giving the results, however, let us consider what we have a right to expect from basket layers. Common sense will teach us that there is a limit to the advantages to be desired from this mode of propagation; a little consideration will show us just where this limit must in the nature of things lie; and if any vine seller claims that basket layers will do more, then we will do well to doubt his assertions, or at least doubt *our* ability to equal *his* extraordinary results.

Did you ever lay a stout branch of a vine, laying it down for some length deeply (that is to say ten to twelve inches) below the surface, keeping it moist during summer, and cutting it free from the parent plant in the fall? If you have made such a layer and taken care of it next year, you are doubtless aware that a plant so produced is capable of bearing a crop of fruit next season, provided it is not moved from the place where it layered. It cannot ripen a very large crop, because the roots which are produced by layers during the first season never ripen as well as those upon plants which have been growing since spring. But it will have a fair proportion of roots, and if not fruited at all, it is capable of making an exceedingly vigorous plant during the next season. If then you have ever tried this, you have a standard which it is in vain for you ever to hope to surpass by any such contrivances as box or basket layers. This is too obvious to require remark. No one would venture to assert that merely removing such a vine,

no matter how it was done, would add to its vigor or hasten its progress. Now even the most inexperienced will have some idea of the extent to which the roots of such a layer as we have described will extend. Are you prepared, "regardless of expense," to remove all the earth within that space? If so, it is probable that the vine in its new location will bear *nearly* as well as if it had not been moved. But if you live at a distance from the original vine, you will find that the freight will cost more than the vine is worth. We have under ordinary favorable circumstances layered a branch from a bearing vine, and had it make a strong plant next season—a plant which, during the following year, bore a full crop. To avoid mistake, let us say that if in this year of our Lord 1866 you make such a layer, it will, during 1867, make wood enough to cover a trellis eight feet long and three feet high, and during 1868 it will bear a full crop over that extent, provided it is allowed to remain where it is layered. We base this statement upon our own *average* experience under *ordinary* garden culture. No basket layer under the same circumstances could have done more.

But the removal of such a layer would be a formidable undertaking. Take such basket layers as are figured by Du Breuil—they are about equal to those generally offered for sale—where but a few joints are laid down and the amount of earth does not exceed from one-half to one bushel, and the idea of either fruiting them, or building up the superstructure of the future plant upon any such basis, during the first season, would be preposterous. You may fruit such a vine, but every bunch will cost you ten times its value, if the vine is worth anything at all.

But, when properly managed, basket layers may be made to do much better than common layers, or "naked layers," as they are called, of the same size. A good shoot from an Isabella vine, layered by the end of May in an old half-bushel basket, separated from the parent plant by

the middle of August, and removed on the 5th of September to its permanent location, ripened its wood so perfectly that two arms of four feet each (which had been grown while the layer was attached to the parent vine) were laid in at the winter pruning. Next year these arms threw up twelve vigorous shoots, all of which would have borne fruit if allowed to do so. But the fruit blossoms were all removed as soon as they showed themselves, and the second season each alternate shoot bore a full crop of grapes without injury to the vine.

We have never been able to attain the same success with naked layers, and we therefore regard the use of baskets as capable of saving fully one year.

But in all our experiments we have found that the great advantage to be derived from the use of baskets is the facility which it gives us of transplanting the young vines before they have done growing. A plant layered by the end of May will begin to throw out roots early in June; by the first of August these roots will have filled a large basket; if now, by the middle of August, the layer be placed upon its own resources, the roots and wood will ripen thoroughly. Remove the plant by the first of September to its final resting place, and the roots will not only heal up all their injuries, but will send out multitudes of new fibres, as we have proved by careful observation, and your vine at the close of the season is equal to a good, healthy plant that had been set out in the previous spring and had grown without check the whole season. *And it is not a whit better.* Would you dare to fruit a common plant the second season after setting out?

But if the plant should be transported to a distance and the roots next outside of the box or basket, should get dry, the plant is worse than a well-transplanted common vine of the following spring.

So, too, if the transplanting be delayed until late in the fall, or till the following spring, we cannot see how basket layers

would prove better than well-transplanted vines removed in the ordinary manner. Indeed, we would prefer the latter, even aside from convenience and cheapness. It is well known to every plant grower that in setting out vines that have been grown in pots and boxes, it is better to shake off all the soil from the roots and spread them out in their new location, than merely to transfer the ball to the border, unless the operation has to be performed during the growing season. It is true that in baskets or boxes made of slats, the roots are not so much confined as they are in pots or tight boxes. Still this would not alter our preference.

To us it seems that the great advantage to be derived from basket layers lies in the fact that they can be transplanted so early in the fall as to secure what is virtually equivalent to an extra year's growth. This, and this alone, confers upon them their superiority to common layers or cuttings. That the use of the basket does enable us to secure this great advantage, we know, for we have tried it. Would it not be well, then, for those who desire to extend their vine-

yards to give some attention to this subject?

Instead of setting out plants in the spring, make a number of basket layers in May or early in June. During the summer the land to be occupied by the proposed extension may be used for any valuable crop that can be removed by the first of September. At that time the ground can be cultivated and brought into the very best condition, so that the plants might be placed in soil mellow and friable to the last degree.

If after being planted they were thoroughly mulched, they would go on and ripen both wood and roots, and become so firmly established that, next spring, they could not fail to make a vigorous growth. And we are perfectly satisfied that the grape grower who adopts this plan in his vineyard will form an opinion of basket layers very different from that of the amateur who, in November, receives by express from a distance of a hundred miles or more a box or a basket layer at a cost of five or ten dollars.

GLEANINGS—CONTINUED.

IX.

In speaking of the greatest depths within the earth reached by human labor, we must recollect that there is a difference between the *absolute depth* (that is to say, the depth below the earth's surface at that point), and the *relative depth* (or that beneath the level of the sea). The greatest relative depth that man has hitherto reached is probably the bore of the salt works at Minden, in Prussia: in June 1844, it was 1,993 feet, the absolute depth being 2,231 feet. The temperature of the water at the bottom was 91° Fahrenheit, which assuming the mean temperature of the air at 49° 3', gives an increase of temperature of 1° for every 54 feet. The absolute depth of the artesian well of Grenelle, near Paris,

is only 1,795 feet. It is said that the "fire-springs" of the Chinese, which are sunk to obtain carburetted hydrogen gas for salt boiling, far exceed our artesian wells in depth, some of them are more than 2,000 feet in depth, and one is mentioned by Humboldt which had a depth of 3,197 feet.

The relative depth reached at Mount Abassi, in Tuscany, amounts to only 1,253 feet. The boring at the salt works near Minden, is probably of about the same relative depth as the coal-mine at Apendale, in Staffordshire, where men work 725 yards below the surface of the earth. The relative depth of the Monk-wearmouth mine, near Newcastle, England is only 1,496 feet. The works of greatest absolute depth that have ever been formed, are for the

most part situated in such elevated plains or valleys, that they either do not descend so low as the level of the sea, or at most reach very little below it. Thus the Eselschacht, in Bohemia, a mine which cannot now be worked, had the enormous absolute depth of 3,778 feet.

X.

According to tolerably accordant experiments in artesian wells, mines, &c., it has been shown that the heat increases on an average about 1° for every $54\frac{1}{4}$ feet. The two points on the earth lying at a small vertical distance from each other, whose annual mean temperatures are most accurately known, are probably at the spot on which the Paris Observatory stands, and the Catacombs beneath it. The mean temperature of the former is $51^{\circ} 5'$, and of the latter $53^{\circ} 3'$, the difference being $1^{\circ} 8'$ for 92 feet, or 1° for 51.77 feet.

If this increase of temperature can be reduced to arithmetical relations, it will follow that a stratum of granite would be in a state of fusion at a depth of about 21 geographical miles, or between four or five times the elevation of the highest summit of the Himalaya.

XI.

It must be remembered that the inorganic crust of the earth contains within it the same elements that enter into the structure of animal and vegetable organs. The physical cosmography would therefore be incomplete if it were to omit a consideration of these forces, and of the substances which enter into solid and fluid combinations in organic tissues, under conditions which from our ignorance of their actual nature, we designate by the vague term of *vital forces*, and group into various systems, in accordance with more or less perfectly conceived analogies. The natural tendency of the human mind involuntarily prompts us to follow the physical phenom-

ena of the earth, through all their varied series, until we reach the final stage of the evolution of vegetable forms, and the self-determining powers of motion in animal organisms.

XIL

During the winter season plants are provided by nature with a sort of winter quarters, which secure them from the effects of cold. Those called *herbaceous*, which die down to the root every autumn, are now safely concealed under ground, preparing their new shoots to burst forth when the earth is softened in spring. Shrubs and trees, which are exposed to the open air, have all their soft and tender parts closely wrapt up in buds, which by their firmness resist all the power of frost; the larger kinds of buds, and those which are almost ready to expand, are further guarded by a covering of resin or gum, such as the horse-chestnut, the sycamore, and the balm of Gilead. The external covering, however, and the closeness of their internal texture, are of themselves by no means adequate to resist the intense cold of a winter's night; a bud, detached from its stem, enclosed in glass, and thus protected from all access of external air, if suspended from a tree during a sharp frost, will be entirely penetrated, and its parts deranged by the cold, while the buds on the same tree will not have sustained the slightest injury. We must therefore attribute to the living principle in vegetables, as well as in animals, the power of resisting cold to a very considerable degree. In animals we know this power is generated from the decomposition of air by means of the lungs and disengagement of heat. How vegetables acquire this property remains for future observation to discover. If one of these buds be carefully opened, it is found to consist of young leaves rolled together, within which are even all the blossoms in miniature that are afterwards to adorn the spring.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. Woodward, 37 Park Row, New York.

We have received from Mr. George Husmann, of Hermann, Missouri, the prospectus of the Bluffton Wine Company of Central Missouri.

The objects of the Company are:

FIRST—The purchase of 2,000 to 3,000 acres of the most desirable grape land surrounding Bluffton Landing. A portion of this land may in time, at the discretion of the Company, be sold to suitable persons who may wish to locate upon it for grape-growing or other purpose. The principal part, however, is designed to be leased for a term of ten years, in tracts of about twenty acres, to persons who, without having the means to purchase, have the disposition, necessary intelligence and industry for engaging in grape-growing. The leases to be made on terms similar to those already established by Mr. Husmann. This, the grape-growing proper, to be under the supervision of a competent manager, who is able to assist the tenants with advice and instruction when they need it. The terms of Mr. Husmann's leases are briefly as follows:—To furnish the tenant a small house to live in, the vines for planting, the wire for trellis if used, about \$150 for his support the first year, and give him one-half of the produce. This plan has been tried for several years by Mr. Husmann, and found to be very profitable and satisfactory to both parties.

SECOND—Under a competent manager, to propagate grapes largely upon the deep, rich, sandy loam soils to be found on some of the creek bottoms belonging to the Company. It is well known by trial that a very superior quality of plants can be produced with great facility upon these soils. In this way the surplus grape wood produced can be used to good advantage. An im-

mense amount of plants may be thus grown, and the public furnished with vines at a lower rate, and of better quality than can be obtained elsewhere.

THIRD—Build a cellar or cellars of sufficient capacity to hold the wine which can be made from all the grapes grown in the vicinity, purchasing the shares of the lessees at a fair value, and also the products of other vineyards in the vicinity. The advantage of making wine on a large scale, and in large and suitable cellars is well known. Add to this the peculiar advantage of the soil and location, and it is confidently believed that wine will be made at Bluffton infinitely superior in quality to any heretofore made in this country East of the Rocky Mountains. This department also to be under the supervision of a competent person, who understands the management of still and sparkling wines, distilling the husks and lees into brandy, &c.

FOURTH—To establish a depot for sales in St. Louis.

OFFICERS OF THE COMPANY.

GEORGE HUSMANN, *President.*

DR. PHILIP WEIGEL, *Vice-President.*

DR. L. D. MORSE, *Secretary.*

HON. ISIDOR BUSH, *Treasurer.*

We are glad to see an enterprize of this sort put in motion, and by parties of such well-known standing. Mr. Husmann has already demonstrated that its success is certain.

SEEDLING GRAPE-VINES, magnolias, ornamental shrubs, &c., should be protected the first winter. Many a plant is destroyed the first winter that, had it been then protected, would have afterwards proved hardy.

LILIES—HYBRIDIZATION.—The Japan lilies, *speciosum* and varieties, have now been for years among the gems of our flower-gardens. More recently the *auratum* was introduced, and, with its immense size of flower, and beautiful gold band or stripe in the centre of the petals, has caused some amount of excitement, and ready sale for the bulbs at high prices. But the end is yet to come; and, from what has been told us, and from what we have read, the Messrs. Hovey, of Boston, have, by hybridizing the variety of Japan lily called *melpomene* with the *auratum*, produced and flowered a variety surpassing the *auratum* in splendor, and having the form of flower and habit of foliage of *speciosum*. This, of course, inaugurates the practice now soon, we doubt not, to be followed by amateur florists, until a few years, we trust, will see our gardens blooming with varieties of these lilies, as much surpassing in beauty the present as the present does that of the old tiger lily. By the by, we suggest to operators the tiger lily as a parent to work upon, to retain hardihood, and bring out colors.

BULBS that are yearly moved and flowered in the open ground rarely seed; but, if left in the same place three or more years, without having been taken up, the main or centre flower stalk will generally produce seed. Plants, however, that are grown in pots in the house nearly always produce seed, hence such plants are advised for operating on.

DWARF EVERGREENS, planted in tubs or boxes where, during the past summer, verbenas, geraniums, &c., have freely bloomed, help to make a cheerful and pleasing character to a portion of the garden or lawn that otherwise would present a barren and rather unsightly feature. The evergreens, if not wanted in spring to plant out elsewhere, may be kept in the tubs in the back yard, or massed in around and among groups of stately trees.

GATHERING FRUIT.—Pears and apples, usually termed fall varieties, should be gathered a week or ten days before they would naturally drop. Pick them by hand; lay them in barrels or boxes, enclosing them tight; and place in a cool but dry room or cellar. So cared for, they will often keep till near or quite mid-winter.

Winter varieties, especially long-keeping sorts, should be left on the trees as long as the weather will permit. Some claim that, as the ripening process changes the starch into sugar, therefore, in order to keep well, the fruit should be gathered before any such change has taken place; in other words, that the fruit should be gathered two or three weeks before it is commonly termed ripe.

We may err in our judgment; but many years of observation convinces us that our best fruits in winter and spring have been those that we permitted to hang longest on the tree.

THE KITTATINNY BLACKBERRY.—This blackberry, it seems, called the members of the American Institute Farmers' Club to an examination of its merits in August last. Their report places it as promising to be more desirable, both for market and family use, than any other variety. It is stated to be as large as Lawton; to ripen earlier, and continue longer, and to bear equally as well, if not better; the canes perfectly hardy, and the fruit sweet and high-flavored. It originated in the woods near the Kittatinny Mountains, in Warren County, N.J.

HYACINTHS, for early blooming in the house, should be potted this month.

STRAWBERRY BEDS should be carefully looked over, and the weeds thoroughly eradicated. If not already mulched, do not delay attending to it. Our southern growers will find this a good month to form new beds.

As soon as the leaves drop, prune outdoor grape-vines.

CLETHRA.—Among our shrubs there are, to our vein, none more worthy attention than the clethra. Common as it is in parts of New England, and so on toward the Continent, it is rarely found in our gardens; and yet, during the month of August, there is no shrub whose spikes of flowers are more beautiful or more fragrant. It is perfectly hardy, and should be in all grounds.

THIS AND THAT.—Our friendly contemporary, the *Gardener's Monthly*, in its August number, takes us to task for crediting it with the transactions of the Fruit Growers' Society of Eastern Pennsylvania; and, at same time, rather intimates that we had intention to attack its uttered remarks relative to the duration of the pear on quince stocks.

Now, we had no intention to credit incorrectly; nor do we see that crediting to the *Monthly* or otherwise in this matter is of any import relative to the subject in hand.

Again, we wrote our item without being "put up to it," but simply making a record of what appeared as the sayings of a fruit-grower. We had no intention either to do injustice to Mr. Crucknell, but gave the record as we understood the reading to mean. The report in the *Monthly*, it seems, reads that Mr. Crucknell "was opposed to quince stocks, from their making the tree so short-lived, not lasting longer than twelve years." This we qualified by saying "about twelve years." Now, Mr. C. says that his remark was, that "the pear or quince, as a general rule, could not be relied upon to bear and ripen a profitable crop of fruit after attaining the age of about twelve years." To this we have now only to say that, in our knowledge, the best of crops have been produced on dwarf pear trees much more than twelve years old.—Our own most productive and healthy dwarfs are, this year, from sixteen to twenty years of age.

We have no special interest to advocate in the pear or quince; and, were we living

near Philadelphia, do not think we should choose it as a stock; but the combined knowledge of the growers in various sections, as reported, shows the pear to be, when grown on quince, very valuable in certain localities and soils—of the latter, clay seems to have preference.

INTRODUCTION OF THE ENGLISH SPARROW WEST.—On Staten Island, and about Lewellyn Park, in New Jersey, the English sparrow has been introduced. The result of this introduction has been that anticipated, viz.—a destruction of great numbers of insects injurious to our shade and fruit trees. As it will take years for those birds to reach our Western States, where fruit-growing is a feature of business, and where shade trees, as here, are part and parcel of every gentleman's home, we suggest to such gentlemen readers of our magazine the expenditure by them of a small sum in importing and introducing the sparrow. Gentlemen with incomes varying from \$30,000 to \$180,000 a-year, can certainly afford the paltry sum of twenty-five or fifty dollars toward the introduction of a bird, whose labors will keep our shade trees from defoliation, and our fruits less injured by insects.

Let any gentlemen, of city or town-club, if they will, or individually—do this act of introducing the sparrow, and their names will be held in reverence for years, as men who sought not their own only, but the public good.

GRAPE CUTTINGS, made as soon as the foliage of the vine drops, and planted out in well-prepared land, will start early in the spring, and make a stronger and better growth than when made during winter and planted out in the spring.

MOUNT LEBANON GRAPE.—Two years since, Mr. Bacon, of Richmond, Mass., made notice in this journal of a grape, under the above name, that ripened its fruit in August, and promised to be valuable. Will Mr. Bacon please tell us more about it?

BRILL'S EARLY CORN.—Of the various sorts of sweet corn, we have to give credit to Brill's Early, as fully sustaining its reputation. We had our seed of Messrs. Henderson & Fleming, and planted of it same day and in same soil with other varieties of sweet corn, and with Early Jefferson. We gathered of Brill's at same time as of Jefferson, and a week earlier than any other of the sweet varieties.

THE CHIHUAHUA TOMATO, in our grounds this year, has proved one of the largest in size; but, as it is very uneven and late in ripening, we do not esteem it.

Roses and other plants, taken up and re-planted this month, should, at the time, be placed in a frame or the house, and shaded from the sun until fully established, say two weeks or more.

BUDDED TREES should be carefully looked over this month, and examined that no strings be left to cut and destroy them.

If young peach stocks have grown too strong, and there is fear of them breaking off, take the hedge shears and go through them, cutting freely the side limbs, and shortening back the green part of the top wood.

CELERY.—If your beds of celery have not been regularly earthed up, then get some common round draining tile, and draw each stem of celery through the tile, leaving to stand on end. It will bleach finely in this manner, and continue to grow more freely than when bleached by drawing the earth up around it.

PLANTS THAT ARE TO BE HEELLED IN should have a dry place, where the rains will run off freely, and, if possible, where they may be shaded from sun after ten or eleven o'clock of the day.

PURCHASING TREES IN THE FALL.—A correspondent enquires for our opinion relative to the purchasing of his trees in the fall. He says his ground will not be ready for planting until spring, and that he is a long distance from any nursery. We advise all tree planters whether near or far from a nursery, to purchase their fruit and ornamental trees, except evergreen, in the fall. If the ground is not ready for planting before first of winter sets in, then select a dry place, if possible, shaded from the sun, and heel them in carefully. There are often times in winter when planting out may be done to great advantage; and, by having the trees on hand, the work can be performed leisurely and carefully.

CAUSE GRAPE ROT.—The Lake Shore Grape-Growers' Association made an excursion trip to Kelley's and other Lake Erie Islands, in August, and at same time held meetings for discussion relative to rot and mildew. We find, from published reports of their sayings, that the cause of disease in the grape, rot, &c., is ascribed in great measure to permitting the vines to overbear, and thus reduce their vitality and ability to endure extreme changes of temperature. To this, and severe summer pruning, if we recollect aright, Mr. F. R. Elliott, of Cleveland, ascribed the cause, in a communication to the *Ohio Farmer* last year. Summer pruning, as a rule, we learn, is now pretty generally abandoned on the islands. May not this be an error? We incline to the practice of summer pruning, but with a knowledge of the object, and not the heretofore blind practice of following old dogmas.

LARGE GRAPE LEAF.—A friend, visiting Professor J. P. Kirtland the past summer, measured a leaf of the Coleman's white grapevine, the dimensions of which were eighteen by fourteen inches. This grape, by the by, is entirely distinct from Cuyahoga, but perhaps not as good.

Messrs. EDITORS:

I should like to say a word in reply to "Reuben's" pleasant and suggestive criticism in the August number. He seems disposed to doubt the profits reported from the Concord, and says we should not reckon from one vine, &c. This is very true; and I, therefore remind him that Mr. Bull's results are obtained from a vineyard of 20,000 vines; that one of the other gentlemen whom I consulted has six acres in vineyard; and that, in Middlesex County, Mass., alone, there are fifty-three acres of cultivated grapes, not counting small lots. So the matter has been tried on a fair scale.

Mr. Bull's trifle of compost is necessary to bring about a connection the first year between the vines and the wretched soil in which, when once established, they flourish, and is a mere nothing in point of expense compared to the trenching and manuring still so obstinately insisted on by the books.

In regard to the Iona, all I can say is, that I am willing to wait a little, and to refer my want of success with it, and the failure of my friends, to the contemptibly wretched vines thus far sent out from headquarters and elsewhere, at most exorbitant prices.

As we get vines that do not require four or five years coaxing to get one poor bunch, our opinion may be modified.

At Salem, Mass., this year, I saw the Adirondac, purple, sweet, and three-quarters ripe, on the 17th of August, in a not very favorable location.

J. M. MERRICK, Jr.

THE ESSENTIAL OILS VERSUS MILDEW.—The article in the September number of the *HORTICULTURIST* by Viticola is both interesting and suggestive, and should encourage a careful series of experiments, based upon M. Nubert's recipe against mildew. Certainly, it would be unwise to reject the deliberate recommendation of this careful and skillful cultivator (who is also

reputed to be a scientific chemist) without mature consideration or practical testing. The statements of Viticola, in respect to the fatal effects of essential oils upon most plants of a fungoid character, are also to be accepted with confidence.

And yet, considering the proportions of the recipe, and the manner of its use, I must still own to a good deal of incredulity as to its complete power to control mildew.

Consider first the proportions which are thus given:—Salt, $8\frac{1}{2}$ ounces; saltpetre, 4 ounces; water, 36 ounces; oil of lavender, 10 drops; oil of rosemary, 10 drops. "Take one part of the solution, and from one hundred to one hundred and twenty parts of water." There is an ambiguity in the use of the word part; but, however its use may be decided the overwhelming preponderance of water is manifest.

"Now, I believe the science of homoeopathy, and its wholesome influence upon general medical practice are entitled to consideration. But I submit that, when the above solution is recommended, not for direct contact with disease, but as a wash to be applied to the trellis and cane of the vine, in the open air, before the leaves appear, and months before there are any signs of mildew, it requires a good deal of faith to believe there can be such continued virtue in such small quantities of volatile oils, or even in the salt and saltpetre. If the solution were applied at the incipiency, or just prior to the development of disease, and in connection with sulphur and lime, we should have good reason to expect favorable results, though the quantity of salts and of oils is exceedingly small. But I would ask Viticola if it is conceivable that so small a quantity of these volatile oils, when applied in spring, can have any perceptible effect upon mildew in August—the worst month for its ravages? I agree with Viticola in hoping for good results from the recipe of M. Nubert, and I thank him for indicating that my previous criticism was too sweeping. Still, I think the proportions of the recipe, and especially the time

of application, will be greatly modified by trial. In this connection, I would ask if any vine-growers have noticed any immunity from mildew to vines trained around red cedar posts? I have thought there was a perceptible difference in favor of vines on cedar posts. We might expect this result, for the aroma from the posts is known to be antiseptic, and it is quite powerful when the posts are new.

Thanks to Viticola for correcting an inaccuracy of expression. Sulphur dusted upon the vines volatilizes slowly. In the process does it not combine with oxygen, and form sulphurous gas? I had supposed so, but have no authority or practical test.

W. C. STRONG.

and mildew on grapevines, an eminently-paying application. Year by year, some of our best fruits are black-balled in convention, because found scabby or cracked, but who proposes better ones in their stead? Or who faithfully combats their maladies as he would on live stock, for instance?

We do not yet seem half rid of the old notion that a fruit tree must do all without care or aid. Do pears blight—"no use; can't raise 'em." Does a White Doyenne crack badly, reject it as an "outcast intolerable to sight." Seriously, can't we do better? Who will mind this for next year?

F. K. PHENIX.

Bloomington, Ill., Sept. 13, 1866.

Messrs. WOODWARD:

A neighbor amateur has this year grown about a bushel of most delicious Imperial Gage plums on one tree, passed over to him some three years since by a brother, who said "No use for him to try to grow plums." After it was planted out one year, the family woodpile was corded up under and about it; and after the fruit had set, so long as any fear of curculio, a plentiful shower of air-slacked lime dust was scattered over the top every week or twice a week. Last year it bore a peck; this year a bushel or so—and here you have the whole story.

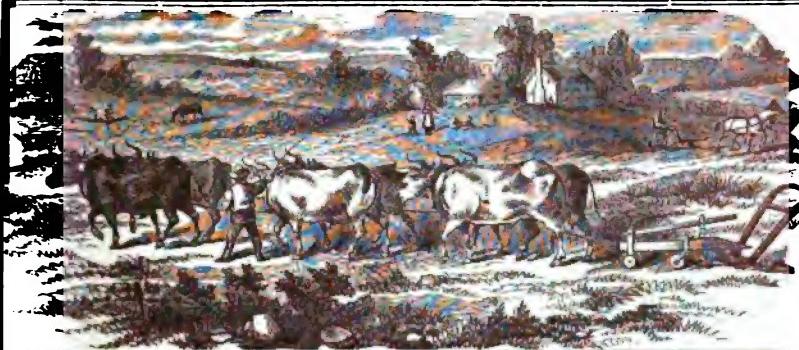
The writer is a profound believer in the efficacy of a similar course of treatment, so far as dusting with lime &c., not merely for curculio, but for the *whole herd of insects, mildew and fungi generally*. I yet believe this mode of throwing dust in trees will force our enemies to yield, if it did not the boy in the old story who was up in the apple tree. So far as large trees are concerned, and the cost of material, either lime, ashes, plaster, or sulphur, are entirely within reach and reason, and will be found against cracking on pears, scab on White Winter Pearmain and other choice apples,

"BOOKS BY MAIL."—We supply from this office all books and publications on Architecture, Agriculture and Horticulture, and mail them free of postage to all parts of the country. In addition, we execute orders for the purchase and mailing of all miscellaneous books, &c. Order any book published, through us, and it will be promptly sent at the lowest price.

ADVERTISING COLUMNS.—We call the attention of our readers to our advertising columns this month. It will pay to look through them carefully. Many new names will be found, and we believe all will deal fairly.

Each year shows an increasing prosperity in the Nursery Trade, and those who grow good plants, transact their business promptly, and advertise liberally, are those who meet with the greatest success.

So far as Grape Vines are concerned, we would advise our readers to order early.—The stock in the whole country is not large. We believe the demand will not be met, and that later in the season prices must advance very considerably.



THE BEST FARMING LANDS in the WORLD FOR SALE BY THE ILLINOIS CENTRAL RAILROAD CO.,

In Tracts to suit Purchasers, AT LOW PRICES.

THE ILLINOIS CENTRAL RAILROAD COMPANY HAVE FOR SALE,
100,000 ACRES of the best Farming Lands in the Country.

The road extends from Danieith, in the north-western part of the State, to Cairo, in the extreme southern part, with a branch from Centralia, one hundred and thirteen miles north of Cairo, to Chicago, on the shore of Lake Michigan—altogether a length of 704 miles—and the land which is offered for sale is situated upon either side of the track, in no instance at a greater distance than fifteen miles.

State of Illinois.

The rapid development of Illinois, its steady increase in population and wealth, and its capacity to produce cheap food, are matters for wonder and admiration. The United States Commissioner of Agriculture estimates the amounts of the principal crops of 1864, for the whole country, as follows: Indian corn, 530,581,403 bushels; wheat, 160,695,823 bushels; oats, 176,690,064 bushels; of which the farms of Illinois yielded 138,356,135 bushels of Indian corn; 33,371,173 bushels of wheat; and 24,273,751 bushels of oats—in reality more than one-fourth of all corn, more than one-fifth of the wheat, and almost one-seventh of the oats produced in all the United States.

Grain—Stock Raising.

Pre-eminently the first in the list of grain-exporting States, Illinois is also the great cattle State of the nation. Its fertile prairies are well adapted by nature to the raising of cattle, sheep, horses and mules; and in the important interest of pork packing, it is far in advance of every other State. The seeding of these prairie lands to tame grasses for pasture or hay, offers to farmers with capital the most profitable results. The hay crop of Illinois in 1864 is estimated at 2,166,725 tons, which is more than half a million tons larger than the crop of any other State, excepting only New York.

Inducements to Settlers.

The attention of persons, whose limited means forbid the purchase of a homestead in the older States, is particularly invited to these lands. Within ten years the Illinois Central Railroad Company has sold 1,400,000 acres, to more than 20,000 actual settlers; and during the last year 284,422 acres—a larger aggregate of sales than in any one year since the opening of the road. The farms are sold in tracts of forty or eighty acres, suited to the settler with limited capital, or in larger tracts, as may be required by the capitalist and stock owner. The soil is of unsurpassed fertility; the climate is healthy; taxes are low; churches and schools are becoming abundant throughout the length and breadth of the State; and communication with all the great markets is made easy through railroads, canals and rivers.

PRICES AND TERMS OF PAYMENT.

The price of lands varies from \$9 to \$15 and upwards per acre, and they are sold on short credit, or for cash. A deduction of ten per cent. from the short credit price is made to those who buy for cash.

EXAMPLE:

Forty acres at \$10 per acre, on credit; the principal one-quarter cash down—balance one, two and three years, at six per cent. interest, in advance, each year.

INTEREST.	PRINCIPAL.	INTEREST.	PRINCIPAL.
Interest,.....\$18 00	\$100 00	Interest,.....\$4 00	100 00
Interest,.....12 00	100 00	Interest,.....three years	100 00

The Same Land may be Purchased for \$360 Cash.

Full information on all points, together with maps, showing the exact location of lands, will be furnished on application, in person or by letter, to

LAND COMMISSIONER, Illinois Central R. R. Co., Chicago, Illinois.

Grape Vines at 10 Cents Ea.

PARSONS & CO.

Offer for the Fall Trade,

600,000 GRAPE VINES,

Of all the best varieties. Among them are:

DELAWARE.

2 years, transplanted and unusually fine,
\$37.00 per 100; \$275 per 1000
1 year, No. 1, 25.00 per 100; 200 per 1000
" No. 2, 20.00 per 100; 150 per 1000
" No. 3, 12.50 per 100; 100 per 1000
Concord, 12.00 per 100; 100 per 1000
Hartford Premium, \$20.00 per 100.
Diana, 20.00 per 100.

IONA.

No. 1.....	\$75 per 100,
No. 2.....	50 per 100,
Israelia ,	75 per 100
Ives' Seedling , ..	25 per 100,
Norton's Virginia , ..	40 per 100,
Adirondack ,	40 per 100,
Creamer's ,	40 per 100,
Rogers' Hybrids , ..	40 per 100.

In classifying their vines they make no EXTRAS. No 1 plants are the largest and their stock, and their average quality is not allowed to be diminished by selecting them for retailing as EXTRAS.

All the plants thus offered are grown without bottom heat, from single eyes of well wood, and in good, deep soil, not injured by extra manuring.

For list of other sorts, they refer to their Descriptive Catalogue of Vines.

The personal inspection of purchasers are invited to the stock of

ROSES.

These are all of the best sorts of Hybrid Perpetuals, Mosses, Teas and the other, and are upon their own roots, not budded or grafted.

Price \$20 per 100; \$150 per 1,000.

The new sorts of 1864 and 1865, also on their own roots, will be found in the Descriptive Catalogue of ROSES.

Also very fine CAMELLIA JAPONICA, in large quantity, and very healthy.

For the Catalogue of a large assortment of the best TREES and SHRUBS.

Oct. Address, **PARSONS & CO., at Flushing.**

BULBOUS ROOTS

FOR

FALL PLANTING,

Embracing the following varieties, of which we have large and fine roots:

HYACINTHS.	- Choice named varieties,	per doz.	\$4.50	per hundred.
"	In named colors, 1st quality,	"	3.00	"
"	" " " 2nd quality,	"	1.50	"
TULIPS.	- Finest named, double and single.	"	2.50	"
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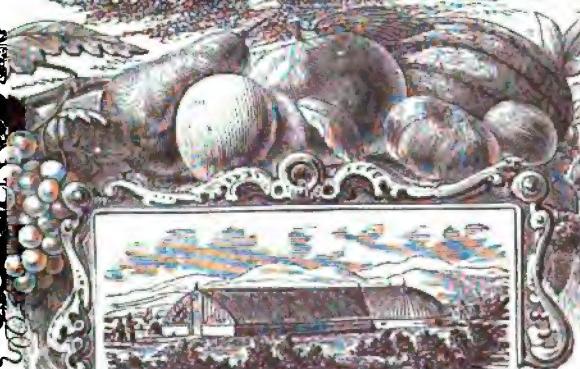
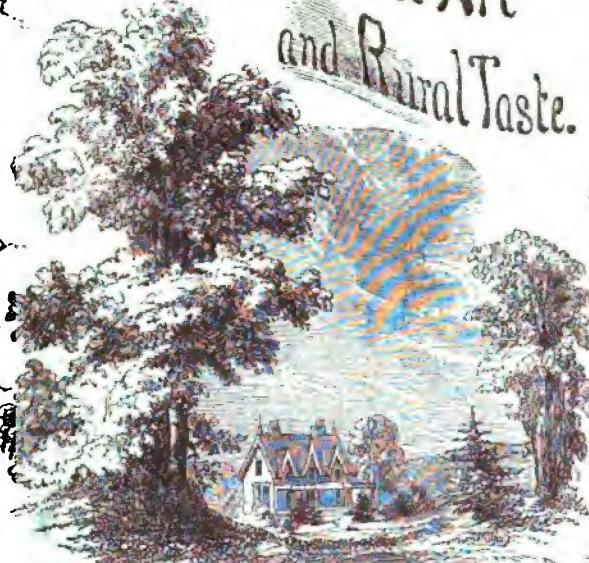
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and Rural Taste.



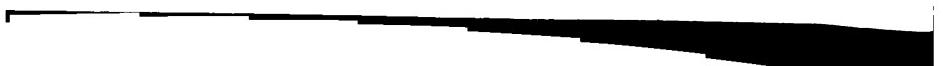
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THE
HORTICULTURIST.

VOL. XXI.....NOVEMBER, 1866.....NO. CCXLV.

WITHIN DOORS.

It is not alone to the outward embellishment of the country home, that art and taste should be directed. The influence of these should be shown as well in its internal arrangement and adornment, and that too, in a way to conduce to the welfare and happiness of the family, and indirectly to promote that genial, unrestrained sociability which should ever characterize country life. To the full accomplishment of this, our rural communities, possessed as they are, of ample means, need only to have their good sense and judgment properly directed. Towards this end but little has as yet been said or done, while, on the contrary, much thought has been given to rural embellishment in the usual acceptation of the term.

How can we hope to effect that which is so much to be desired? How can we best make known the necessary suggestions to those who might profit by them? We can have no better means than those which the pages of the HORTICULTURIST present.

There are certain little foibles, of which our country neighbors, particularly in New England, are guilty, which we heartily wish were abolished. For example, we

would that the spirit, not always to be attributed to meanness, were done away with, which shuts up every portion of the dwelling even against its own inmates, excepting perhaps a single apartment. In that delightful book, "My farm at Edgewood," the author gives us a faithful picture of this failing too commonly met with, and the death of poor Dorothy, and the opening of the darkened parlors, is a true sketch of what takes place every day in almost every country village.

We would gladly see the money now expended in the trashy, half-made articles of furniture, merely because the uncomfortable shapes of some of them, are said to be of the latest style, laid out for those which are truly strong and serviceable, and for this reason, elegant.

We grieve to know that there are families who would willingly dispose of ancestral relics—choice heirlooms that they are, in the shape of solid mahogany chairs, lofty chests of drawers, with curiously-wrought brass handles, elaborately carved bureaus, claw-footed tables, &c., all in perfect preservation, and all of which would long out-

live their present owners, as they have their preceding ones, to supply their places with modern articles, with chairs and sofas upon which no mortal man could ever sit or recline with the least degree of comfort, and with beds and bureaus which soon melt away before the blasts of our modern stoves and furnaces.

We would wish that less dependence were placed in these very stoves and furnaces, and that an open fire-place existed in every room, thus securing ample ventilation and cheerfulness, and thereby contributing to good health and happiness. That at the proper seasons every blind and curtain in the country home should be thrown open to admit the genial sunlight. That the light from the blazing wood-fire as it dances on the walls and ceiling, should show to the belated traveler as he passes, the forms of a happy group gathered about the ample chimney place.

These are but a tythe of the changes which we would exert ourselves to bring about among the intelligent of our rural population. As regards the arrangement and adornment of the interior of the country dwelling, in the present paper we shall speak more especially of the dining-room.

There is nothing more essential to the comfort, and consequently to the happiness of the family, than that the dining-room, should be, of all the apartments of the house, the most pleasant and the most attractive. And to this end, the first requisite is, that it should be properly placed. In building, or in the occupation of the residence already constructed, let that room be selected for the purpose, into which the morning sun at least shall throw its cheerful rays. In our cold climate, at no time is its presence more welcome than at the breakfast table. If practicable, let both the morning and evening sun-light illuminate the room. These points can be attained by the choice of the southeastern exposure. It is not uncommonly the case, that the most dreary, forbidding room in the house,

has been chosen for the daily repasts—a room into which no sunshine, ever pours, and whose whole aspect partakes of that gloomy spirit which too often broods over the tables of our people. We are great advocates for the admission of the sun, especially into those rooms which are occupied throughout the day, and in the construction of a country dwelling, where choice of position is almost invariably to be had, this important point is to be kept most distinctly in view. Where his beams penetrate household neglect on the part of mistress or dependants, is not so apt to be tolerated.

And who can estimate the moral influence which a cheerful, sunlighted, tastefully-arranged room exerts over the members of a household, especially over the younger portion. An influence which shall go with them through life, and which shall build up happy associations, to which their minds shall ever joyfully revert, wherever in the broad world may be their habitation.

In the picture which we should form of what a dining-room ought to be, certainly so far as regards the essential points of which we have spoken, we cannot do better than to present a description of our own, for to us at least it embodies all that is requisite for the growth and encouragement of that home-feeling which we would ever see manifested in our children.

We have a decided penchant for all that smacks of antiquity. We like old houses and old furniture, particularly if comely and serviceable. We delight in painting to ourselves the scenes, through which they must have passed; we believe too that they exert a much greater influence in producing a love for home, than those constructed at a more recent period. Having premised thus much, we will say that our house is old, with a gambrel roof; that its location is a delightful one; that we have refined and agreeable neighbors, and those not too near. The dining-room has a bay-window to the southeast, and two windows

with a southerly aspect. The morning and evening sun throughout the year gladdens it with its presence. The apartment is of fair dimensions, the ceiling low; so low that in the moments of play and during temporary forgetfulness we have brought the heads of our children into very dangerous proximity.

The principal feature of the room, and the one in which we take the most delight, is the big open fire place, which will admit as large a log as one can conveniently bring in. The back and jambs are of brick, well blackened with the soot of many a generous fire. The tiled hearth is broad and long, well-polished brass handirons and fenders, with the accompanying shovel, tongs and bellows, all necessary appendages to the fire on the hearth, are each in their appropriate places.

And what would induce us to part with the cheery and happy spirit, which this old fire-place continually infuses into our little family—whether at the morning hour, when we first assemble around the table, or at the "children's hour" between daylight and dark, when we gather around its hearth to listen to some oft read story or to recite some well-known adventure! A Turkey carpet of pleasing colors, and of thick texture, an article which, in our minds is always associated with substantial old-fashioned families, contributes greatly to our comfort. An antique sideboard convenient both in its external and internal arrangements, with a half dozen high-backed mahogany chairs, telling of Dutchland, not to forget a more luxurious arm-chair, constitute the moveable furniture. Simple, unostentatious woolen curtains, hang at the bay and other windows—supported upon black walnut fixtures. These may be easily dropped at night, shutting off, if necessary, the recess of the bay window, and thereby adding amazingly to the cosy, secure feeling in which we love to indulge in the long winter evenings of the country. Numerous engravings adorn the wall, not in gilded frames, but in those

made of hard wood, merely polished and not varnished, and simple in design. Beside the ancient clock and bronze candlesticks numerous little objects, tokens of kind remembrance, adorn the broad and ample mantel-shelf. Plants, whose flowers have delighted us through the dreary season of winter, find a congenial atmosphere and plenty of sun-light in the bay-window. It is hardly necessary to state that a convenient pantry and a good closet, adjuncts which cannot be dispensed with in the well-ordered household, are contiguous.

Such are the principal features of our dining-room. While we have seen many that are more spacious and elegant, we have rarely seen any that contained within it, more that was essential to comfort or that was more calculated to make a stranger feel at home.

We have been thus particular in our description, for the reason that we would dilate more fully upon certain points.

Of course, we could not hope to govern all tastes, but in such a matter as the selection of a carpet for a country dining-room, we should advocate the choice of one modest, not only in color, but in design. So also with the coloring of the walls, whether by paint or paper, we should be governed by similar rules of fitness—giving our preference to some warm neutral tint, and most decidedly eschewing white, as a color totally unfitted for either adornment of exterior or interior.

Drapery curtains, however simple in their fabric or construction, contribute greatly to the appearance of a room, doing away with that bareness which is never agreeable, at least during the cold season. For their accompanying fixtures, the various species of hard wood simply polished, are far preferable to the gilded, which are less suitable in the country, being more tawdry and more easily destroyed. The same remarks apply also to the frames of engravings, and in many cases even those of oil paintings. These may seem to be

matters of trifling importance, but they all go to show the presence of good sense and a refined taste, ruling over a household. .

Plants, whether upon a stand or hanging in appropriate pots at the window, add amazingly to the cheerfulness of any room, contributing to the pleasure of those who care and tend for them. They serve also as useful barometers, telling us, by their condition, of the atmospherical state of our apartments, their delicate organization being unable to stand against the injurious emanation from overheated furnaces. Mr.

Rand, in his pleasant book upon flowers says, "a plant or a stand of flowers is a constant source of pleasure in a room; it is a spring of sunshine, and its silent influence makes all the household more cheerful and better."

Finally, a certain degree of harmony should be preserved in all that concerns the internal embellishment of the country home, a point which is very apt to be overlooked by those otherwise correct in their tastes.

Chestnut Hill, Feb., 1866.

DESIGNS IN RURAL ARCHITECTURE.—No. 18.

BY G. E. HARNEY, COLDSPRING, N. Y.

THE plan of this house has been adopted in a number of instances, where cheapness and compactness of accommodation were particularly desirable; and in each instance

there has been made some considerable alteration in the exterior, to suit the fancies of different parties, or the requirements of different locations. In the design before



FIG. 181.—*Perspective.*

us, the principal feature of the exterior is the covered balcony over the entrance porch, which, by its depth of shadow, gives boldness to the front, and adds much to

the convenience of the plan, opening as it does out of the two principal chambers of the house, and affording comfort and retirement to the occupants. In winter, it

may be shut in by a glass front, and will form then a very pleasant little conservatory—a luxury which houses of this size seldom afford.

The front door is shielded by a broad hood, and the stoop has seats protected by a railing at the sides.

The front entry, No. 1, is five feet by nine, and opens into the living-room, No. 2, twelve feet by seventeen; this opens into a pantry, No. 3, which is fitted up with sink, cupboards, shelves, and other conveniences. No. 4 is the parlor, twelve feet

fore mentioned by means of French casement windows.

In one of the designs to which this plan was adapted, an extra chamber was made in the place of the covered balcony, and the exterior was finished otherwise in a more ornamental manner. The second story projected over the first about ten inches, and was finished in the vertical and battened manner, the boards being all reduced to a uniform width, and the lower ends, which projected over, were sawn in an ornamental drop pattern.

The principal story exterior was covered with shingles, also cut to a pattern, and nailed to hemlock boarding.

In another design, the gables were all cut off, and the roofs, which were much flatter, projected three feet all around, and were supported on heavy brackets—somewhat after the manner of Swiss houses—the front and rear projections being continuations of the main roof.

The house in each instance was built of wood, filled in with brick, and the roofs covered with slate.

Both stories measured nine feet high in the clear, and all the rooms had open fireplaces. The walls were hard finished throughout, and all the inside wood-work was stained a dark color and varnished.

The floors, which were laid with narrow plank in courses, were stained alternately light and dark.

The exteriors were painted with grays and drabs, varied in shade and tint.

This design, which was the simplest of them all, cost in 1864 about \$1,500.

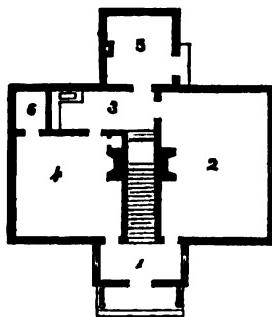


FIG. 132.—*Ground Plan.*

square; and No. 6 is a large closet or pantry, opening out of the parlor, and fitted up with shelves and drawers.

The cellar stairs descend from the pantry, and the cellar has coal and wood bins, and hanging shelves, &c., &c. In the second story are three chambers, one over the parlor, and two smaller ones over the living-room. Each has a closet attached, and the two front ones open upon the balcony be-

little regard to the clouds and shadows of public opinion that, from some unaccountable cause, have long overshadowed them. I find, on referring to my notes in 1862, when I saw the fruit on vines in four differ-

ROGERS' HYBRID—No. 4 GRAPE.

BY F. R. ELLIOTT.

For six years past, I have been examining the various hybrid grapes sent out by Mr. E. S. Rogers, of Salem, Mass. I have examined many of the numbers yearly, and made my own note-book comments, with

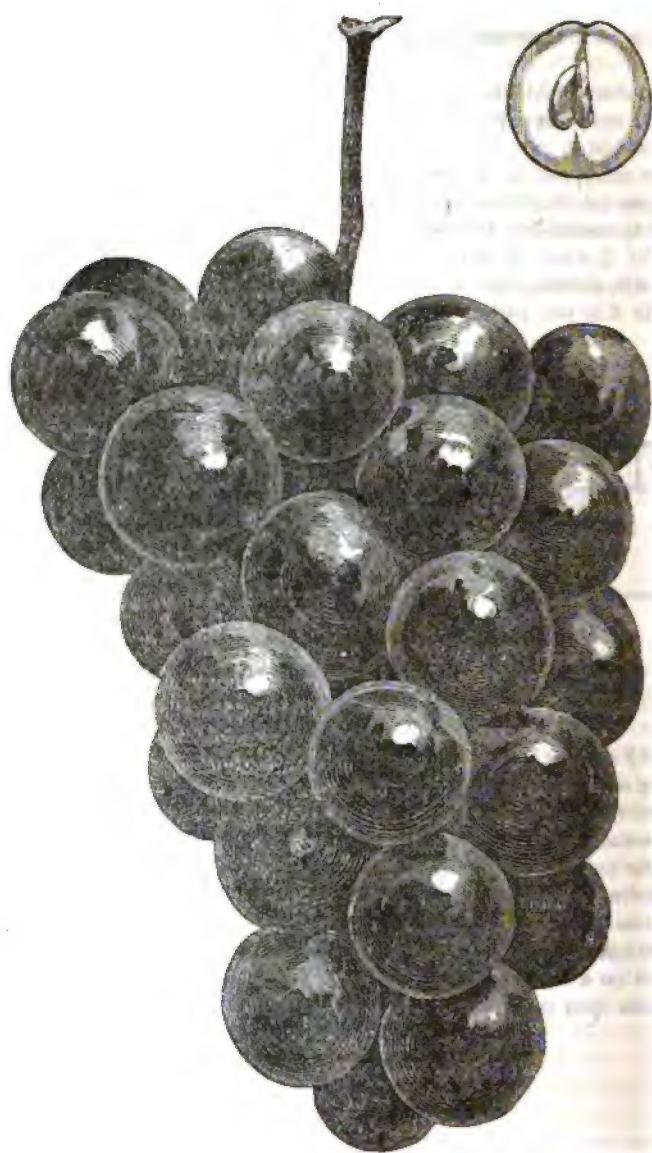


FIG. 133.—*Rogers' Hybrid No. 4.*

ent States, and twenty-seven different localities, on sand, gravel, loam, and clay soils, that I have written—"As a table grape, ripens with Concord; is larger in size of berry, equally handsome in bunch, and of a superior quality."

From that year to this present season, I have had opportunity of seeing the vine in fruit in various localities and soils, and my note-book yearly confirms above remarks.

In vigor of growth and hardihood of vine, I see but little, if any, difference between No. 4 and Concord; and as neither, in my opinion, can rank as first-class wine grapes, and as size and quality are points to meet the public market demand for table grapes, I cannot but think cultivators err when

they plant out Conards to exclusion of Rogers' No. 4.

Herewith, I send you drawing and description of a bunch, with one berry showing its interior.

Bunch large, pretty compact, generally slightly shouldered. Berries large, oblong, round. Color, dark purplish; almost black when fully ripe; covered with a light blue thick bloom. Flesh dark, with a fine white outer concentric line next the second cuticle, and red on the stem formation next the seeds. Pulp small, rich, vinous; slightly harsh, or of native aroma. Seeds whitish-yellow. Skin like Isabella in thickness. Ripens with or before the Concord; or say, in Northern Ohio, from 1st to 15th of September.

GRAP~~E~~ MEMORANDA.

BY M. H. L., SANDUSKY, OHIO.—PART I.

A few weeks in August and September of this season have been very pleasantly and profitably spent in visiting many of the noted and promising localities for grape growing in Ohio, and somewhat beyond her limits along the South shore. If a "plain, unvarnished tale" of facts observed and opinions "bagged" shall be of any sort of service to the vast public interest in grape and fruit culture, I shall not repent having complied with the request of the Editors of the *Horticulturist*.

THE IVES' SEEDLING AT INDIAN HILL.

The unpromising look of the Catawba vineyards, on the steep hill sides, as one approaches Cincinnati by the Little Miami Railroad, recalls the wail of Mr. Thomas H. Yeatman, on the unsuccessful "grape-growing in this vicinity," and arouses curiosity to see that grape, "not addicted to mildew nor rot," of Colonel Waring, Indian Hill, which figured so handsomely (netting \$2,000 per acre) in the rejoinder of the Cincinnati Horticultural Society.

A ride of nine miles through Walnut Hills, where numerous villas "bosomed high in tufted trees," lend additional charm to a lovely landscape, brought us to the elevated summit of Indian Hill. The top of this hill is, a small plateau of gently-rolling surface, and 400 feet or more above the Ohio river.

The colonel, who is a very courteous and sensible gentleman of the old school, showed his well-kept vineyards with something of honest pride; for he told us that he now gathered thousands of dollars with ease, where, a few years since, with toil and anxiety he sometimes realized, but oftener lost hundreds on his Catawba vines from rot, mildew, or winter's frosts.

He has now nearly three acres of Ives in bearing. A portion of these are four, and some six years old. One would not hesitate, at the first sweep of the eye over it, to call it a Concord vineyard; there is such exuberant growth, such large size of leaf with healthful color and apparent firmness of texture. The soil is a clay loam, never

subsoiled, I believe, and not underdrained. The ground is slightly undulating, but I should judge that a vast proportion of the water which falls on it must find lodgement there. The vines are set in rows five feet apart and at the same distance in the row. They are trained to high stakes and as they exceed the prescribed limits, are intertwined with each other along the row. I found many canes stretching across five spaces or twenty-five feet, and this on the 1st of August. It is well known that the Colonel, when he first planted this vineyard, supposing the soil exhausted, manured an acre or more of it very heavily, and followed up the process one or two successive years. While the growth elsewhere is all that could be desired, here it is excessive, as indicated above. It is his practice to trim out laterals on the bearing wood, but the young canes are allowed to grow at will. The vines are prolific. Everywhere they labored under a burden of dark clusters, generally quite compact. The heavy rains at the time of flowering had thinned many bunches, and some, on the part most heavily manured, had been affected by rot. He sadly laments his hundred wagon loads of manure to the acre—and that twice repeated.

Last year his crop of fruit was large, and the must was sold off at once at \$5 per gallon. The wood ripened thoroughly, was trimmed off in the fall and sold mainly to Mr. McCullough, of Cincinnati, at \$20 per thousand. I might add that in the spring following Ives' wood was eagerly bought at \$40 per thousand. I could not see that the remaining canes were even partially injured by last winter's severe freezing. Colonel Waring helped me to the following account of the origin and history of the Ives:

"Henry Ives, of Cincinnati, raised it from the seed. After fruiting it, some twenty-six years ago, he exhibited a few clusters at the rooms of the Cincinnati Horticultural Society, and distributed cuttings of it under the name of the Ives' Madeira

Seedling. He supposed it to have sprung from the seed of a Madeira grape, which he had obtained from foreign shores. A fuller acquaintance with the habits of the vine, its leaf and its products, convinced many members of that Society that Mr. Ives was mistaken as to its parentage, and it was agreed to name it simply Ives' Seedling.

When the cuttings were thus first given out, Col. Isaac F. Waring, of Indian Hill, near Cincinnati, received several, planted them out in his garden, and raised six or eight vines. He did this to have on his grounds a *very early grape*.

The fruit colored by the first of August, and was presented by Ives at once as being fully ripe. The appearance of bunch and berry pleased the eye, but, as the grape was really many weeks from being mature, it did not very favorably impress the Society, though recommended for further trial. These few vines of Col. Waring remained many years in his garden, fruiting heavily each year, plucked of their black berries in early August by children and visitors, but unnoticed by the owner, because he did not fancy a comparatively green and tasteless pulp, even though he could have it many weeks before his favorite Catawba. When his vines came into full bearing, at the suggestion of Mr. Rufus Kittredge, his neighbor, he experimented in making wine from his new grapes, but unsuccessfully, since the pressing took place too early in the season. Twelve or fourteen years passed, in fact, before Col. Waring tasted of well ripened Ives'. By accident he found a few clusters hanging on the vines in the middle of September, and was delighted with the fine aroma and quality of the fruit and the weight of the expressed juice. He decided at once that the very early ripening was a mistake, and that he would increase as largely as possible the number of his vines. Dr. Kittredge made wine later in the season, which met with high favor, and for a time this grape was known as the Kittredge. The Colonel's confidence was now so great that a failing

Catawba vineyard was uprooted, and Ives', as fast as they could be multiplied, planted in its place. In a published article he says: 'I have had this grape in cultivation, with fruit every year, for more than twenty years; during this time no mildew has ever been seen upon it. One year, when I had manured my vineyard heavily, an immense growth of wood was made. There was some rot, yet the crop that year was a fair one. Never since the vine first came into bearing has there been more than a partial failure, while some years it has produced the largest crops of fruit I have ever seen from any grape. The yearly average product of wine per acre thus far is over five hundred gallons.'

I append the following extracts, which are historically valuable, and which, coming from well known and interested horticulturists, will give this account more weight in the eyes of many:

"Geo. Graham, Esq., President of the Cincinnati Horticultural Society, gave an interesting account of the Ives' Seedling before the Ohio Pomological Society in December, 1865, and among other statements, made the following: 'Two years since (1863) Col. Waring made about five hundred gallons of superior wine. * * * It weighed in the must, that year, 86° and the weight of alcohol contained in it 134 per cent., when separated by a French instrument. (It would not show so much alcohol by the German scale.) * * * Some vineyards in Waring's neighborhood, where the vines grew in the native soil, without manure, were not affected by rot, and the wine of this year's (1865) pressing is of very high character, selling from the press at four dollars and fifty cents per gallon. Col. Waring, I believe, expects to get six dollars per gallon for this year's wine.'

The grape is a dark purple, of large size and large cluster, shouldered and compact as the Catawba. The vine is a remarkably strong grower, carries the leaf very late in the season, and grows very freely from

cuttings in the open ground, or from buds forced by heat.

The wine is a beautiful claret color, of pleasant flavor, and by some connoisseurs is considered as a high character of Burgundy; by others as a very superior claret. With our German wine-drinkers it is now the favorite wine, and brings the highest prices.'

The *Cincinnati Commercial* of September 3d, 1866, in a report of the proceedings of the Cincinnati Horticultural Society, says: 'Dr. Warder, R. Buchanan, Geo. Graham, and J. M. McCullough, paid a visit, during the week, to the vineyards of Waring, Roberts and Demar, on Indian Hill, to examine the Ives' Seedling. They report that this grape, thus far, has generally resisted the rot, and this year the crop promises well. The vines planted twelve years ago by Dr. Kittredge, had a good crop of fruit, with little appearance of rot. The vines were in a very healthy condition, holding the foliage better than any of our native grapes and showing an unusual strong growth of wood. It may be considered the grape for this climate.'

One of the members of the above committee, Mr. McCullough, writes us under date of September 4th: 'We think the Norton's Virginia Grape the best, but very unproductive—the Ives' next best, and very productive, and hence the most profitable in cultivation.'

Let me add that this is a fine table grape, sweet and vinous, better than Concord—never cracks and never drops, and is said to make an excellent raisin.

As the time of my stay at the Queen City, was limited, I did not have the opportunity of visiting other vineyards of Ives', of which there are now a number of small ones, nor especially, which I most regretted, the fine vineyard of Norton's Virginia of Mr. Geo. Bogen and the famous Delaware of the veteran John E. Mottier. Mr. B. reported his Norton's in prime condition and fruiting fairly but not heavily. He did not think they had ever yielded

with him more than half as much wine as the Catawba in its favorable seasons. He brought forth a bottle of Norton's three years old. This he kept in reserve in his home cellar. The must weighed 118°. It was certainly most excellent. It diffused a genial glow through the body, and was quite reassuring to weak nerves in a cholera panic. He said that the physicians prescribed both Virginia and Ives' wine, and that during that week he had sold more of the Norton's than for months before. It was stated that many, in all parts of the country, complained of the discouragements in getting under headway with Virginia vines. Mr. B. replied that he had had no difficulty with first-rate roots.

Yet I know that in many cases the vines have died after having made a growth of ten inches the second year. The Catawba promised varied results. With some it had not blighted, and rotted but little. These hoped for three-fourths of a crop. With others it was already nearly a failure. It was the judgment of Mr. Mottier, Mr. Heaver, and others, that there would be on the average a fair crop. Since my visit, I have learned from A. C. Mottier that later the rot had set in again, and there would not be more than half a yield. The Delaware was troubled some in leaf, though not as badly as last year. It was injured, too, with them by the winter's exposure. Mr. Mottier expects a good yield from his vines.

AT DELAWARE.

All who grow or eat the nectarous little Delaware (even the birds), will be anxious to hear from Delaware and Mr. Campbell. His castellated residence is as much of an ornament to the little city of schools and sulphur springs as to his "descriptive list;" and though not enwreathed in nature as in vignette, it is vine-clad, and bespeaks the man of refined tastes and "given to hospitality." His grounds near his residence are well occupied with plant and propagating houses of admirable construction. In

the nursery were myriads of young plants of all the tried varieties; but chiefly the clean and delicate leaf of the Delaware met the eye and plainly indicated that Mr. C. had not by any means forgotten his old-time enthusiasm for this favorite variety. Delawares of advanced age, eight and ten years, standing near his residence, branching at will, over its blue limestone walls and aspiring even to the roof, show great healthfulness of leaf, vigorous growth, and are richly garnished with well-compacted clusters. There were Iones, too, in the fourth year looking thrifty as Catawbas; but only fruiting from secondary buds, as the late frosts took the first show of fruit. A Rodger's No. 2 was quite remarkable for its numerous and large bunches with berries like those of the Union Village. Too late for his locality, but he thought it might do well on the lake shore. He has a good opinion of the Underhill Seedling and the Miles—both comparatively new, but well recommended. They are good growers, hardy, and of good flavor—the latter very early. He has many seedlings; one of which was quite heavy with fruit, colored even then in broad splashes and potted with a net, as if to veil it from profane eyes, though in reality to protect it from the birds. Mr. C. takes great interest in small fruits also, and has made up his mind, as almost every one else has, that the Kittatinny blackberry and Philadelphia raspberry must yet be found in all the gardens and on all the tables of the land. The Kirtland is high in his favor, both for its quality and hardiness.

THE LAKE SHORE GRAPE-GROWERS' EXCUSION.

On the 15th of August, the steamer Clinton, of our city, carried fifty or sixty grape enthusiasts over to Kelly's Island, where we found a hundred odd excursionists already busily spying out the land and the fruit of the vine. Capt. John Spalding, of the steamer Lac-la-Belle, had generously given them free passage from Cleveland.

Among them were many of the magnates of horticulture, viz: Hon. Marshall P. Wilder, Chas. Downing, P. Barry, and F. K. Phoenix.

Kelly's Island contains 2,800 acres, and a resident population of about 800. So rapidly has vine-planting extended within the last ten years, that 745 acres are now devoted to grape-growing. The annual increase at present is about 100 acres. Last year (1865) 1,865,811 pounds of grapes were gathered, and 80,496 gallons of wine were pressed. The largest yield of wine from one acre was 800 gallons.

The crop last year was excessive; the wood was not thoroughly ripened when winter set in, and the frosts of last February materially lessened this year's prospect by destroying one-third of the buds. At the time of blossoming, there were repeated, and often violent showers, continued at intervals through June and well into July, which made sad innovations upon the clusters, washing away the pollen, blighting parts of the bunches with mildew, and in early July inflicting some rot.

These destructive causes were generally at work on the islands, peninsula and mainland; and, though there are many instances of fair crops, especially in the young vineyards, such as are now in their fourth year, and did not bear heavily in the third, still the crop hereabouts may be safely averaged at one-third. The above estimate is made in reference to the Catawba. With us this year, the Isabella is quite a failure—buds and wood even, sometimes nearly to the ground, destroyed by the cold of the 16th of February last—16° below zero. Last season the vines of this variety fruited very heavily, did not suffer from rot, but in the fall early, as the berries began to turn, mildew struck the leaves. The fruit ripened but poorly, in some cases not at all, and the wood was ill-prepared even for the frosts of December. The excursionists, particularly those from the Lake Shore eastward, seemed disappointed at the apparent neglect of many vineyardists on

Kelly's Island. They attributed it to discouragement. No, there is no thought on the islands or elsewhere of throwing up, or of giving careless attendance upon their well-cherished acres. It is the teaching of their experience, as they read it, that too constant tillage during a wet season induces blight and rot, and that summer pruning in any season is a positive detriment. One feature witnessed here struck every one favorably. In one part of the island there are 125 acres of unbroken vineyard, with several proprietors, who cultivate their individual tracts in perfect harmony without division fences. Universally in this vicinity, islands and mainland, the heavy clays are esteemed the best grape land. To prepare them, they must be subsoiled and well underdrained. The vineyards on low, dark soil, or where it is shallow upon rock subsoil, generally, had yellow leaves and straggling clusters.

The Delaware everywhere looked well—foliage healthful, good growth of wood and a plentiful crop. We were particularly interested in the comparison of an acre of Delaware with an acre of Catawba of the same age, side by side, in Mr. Beatly's vineyard. Of the two, the Delaware had made the more wood, looked the healthier, and was the more heavily fruited. Both were on heavy clay, and neither ever had the least enriching. With regard to manuring. I might say that nobody believes in it or practices it here for any variety, and it is acknowledged on all sides that our heavy clay, when well prepared, gives us the most healthful vines and the best fruit and most of it. I allude particularly to such well-tried varieties as Catawba, Isabella, Delaware, Concord and Hartford Prolific.

Our party spent the greater part of the day at Kelly's, and then set sail for Put-in-Bay, eight miles distant. This island, also called South Bass, contains 1,400 acres, and has a resident population of 500. There are now 494 acres planted in grapes. Last year there were 1,117,801 pounds of grapes

gathered and 33,805 gallons of wine pressed in Put-in-Bay township, which includes Put-in-Bay, Middle and North Bass, Sugar and Rattlesnake Islands. The largest yield was from Mr. Lorenzo Miller's vineyard. A prize hat was offered by a Sanduskyian, C. J. Parsons, Esq., to the man who could prove the largest crop of grapes on an acre of ground. After thorough investigation it was decided that Mr. Miller had fairly won the said chapeau. The yield was eight tons. He sold from five acres 34,500 pounds of fruit, and made 6,000 gallons of wine. The price of grapes averaged $7\frac{1}{4}$ cts. per pound, and new wine was worth 90 cts. per gallon. This gives \$7,987.50 for a five-acre grape crop, or \$1,597.50 per acre. These were mostly Catawbas. It may be added that this year Mr. Miller will not be able to show anything like so remarkable a record. His vines are in their sixth year. He looks only for a quarter of a crop. The vines were badly winter-killed.

Philip Vroman took real pleasure in

showing us through "the oldest vineyard on this island." He first set out five acres nine years since, if memory serves me. Last year's vines yielded him \$900 per acre for fruit. His Catawbas were bearing scantily; but 1,200 Delawares, which bore well last year, were heavily loaded, and layered somewhat besides. He sold last year at 25 cents per pound; they are generally selling for that this year. In fact, on islands and mainland, the Delaware is winning golden opinions on clay, black soil and sand.

I have wearied the reader's patience past forgiveness now, I fear, or I would speak of the wines tasted, the sales of land at fabulous prices, the methods of training and cultivation, the visit to Middle Bass and the mainland about Sandusky, and subsequent observations on the Peninsula. In a future article I propose to speak of a trip among the vines eastwardly along the lake shore as far as Pennsylvania.

IMPORTING ENGLISH SPARROWS.

BY J. S. H.

In the *HORTICULTURIST* for October, I observe that you recommend the importation of English sparrows, as a means of protection against the destructive insects which infest our fruit trees in America. I am not prepared to say, positively, that the recommendation is not a wise one, as I am not fully acquainted with the habits of the bird in question; but I would like to know more about the English sparrow before joining in your advice.

In reading the horticultural journals of England, I have noticed that there appears to be more damage done to fruit, in Great Britain, by birds, than there is in the United States. There are frequent discussions of an earnest character, upon the question, which are the most destructive to fruit, the insects or the birds? It appears

that in England it is necessary to protect cherry trees, and nearly all the small fruits, especially strawberries, with netting, to preserve any portion of the crop from the birds.

English black birds, thrushes, finches, and sparrows are, I believe, much more ravenous and destructive than similar birds are in this country. I think I have seen it stated, but I cannot now find the authority, that the sparrows even devour the tender fruit-buds of the pear and apple, in early spring, before they expand into blossoms. I have an impression that the English sparrow is a fierce, ravenous, pugnacious bird, and that while he might help us to get rid of some insects, he would prove a dangerous guest in our orchards and gardens.

I have not felt altogether sure that even our gentle little Jenny Wren was not guilty of eating good plump fruit-buds. I have intended to watch them in the early spring, but have as yet failed to do so. Certain it is, that many a *fruit-bud*, from some cause, proves *fruitless*. I suspect the birds take many a tender bit from the opening flowers.

With these views, I advise caution in the introduction of English sparrows. Let us know precisely what are the habits of these birds; how much damage they do to fruit-buds, to cherries, strawberries, and other small fruits. I fear it will be found that this sparrow is worse than the insects he destroys.

THE HICKS' APPLE.

BY ISAAC HICKS, NORTH HEMPSTEAD.



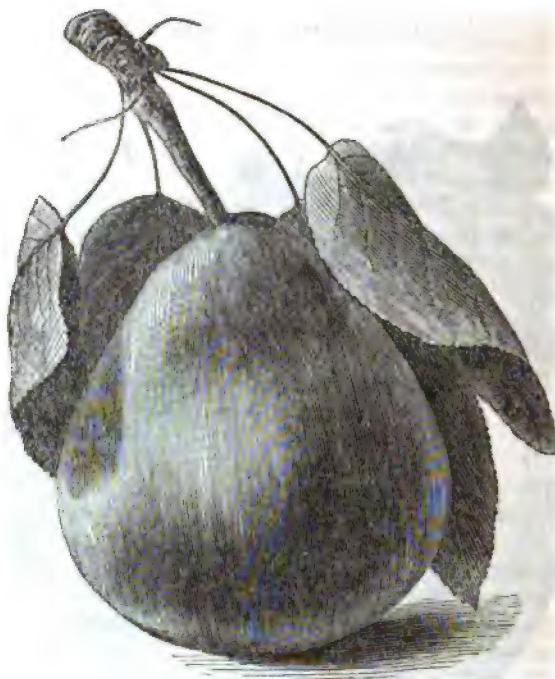
FIG. 134.—*Hick's Apple.*

THIS apple is a natural seedling, found growing wild in a hedge. It is an early and abundant bearer; tree a good grower; fruit of fine size and appearance. I consider it the best early sweet apple that I have seen. Season, middle of August.

THE DORSON PEAR.

BY ISAAC HICKS.

THE Dorson pear is a seedling, found near Glen Cove, Long Island. It has so far proved hardy, a good grower, and productive. Its very attractive appearance, together with the fact that, unlike many early pears, it will keep a long time, if taken early from the tree, and house ripened, must render a good market fruit.

FIG. 135.—*Dorson Pear.*

In general appearance it resembles Osband's Summer, which it, however, surpasses in quality. It is probably a seedling

of the French Jargonelle, but superior, in every respect to its parent.

NOTES ON THE SEPTEMBER NUMBER.

LAWS OF ASSOCIATION IN ORNAMENTAL GARDENING.—Thanks to the writer for thus embodying ideas of association familiar to the student of Nature, but as little known or understood by the mass of people as so much Greek. I hope that, as the Horticulturist reaches hundreds, this article will revive and encourage memories and associations, and educate to a just appreciation the creations of God's boundless love for man, until each home of man on earth shall evince in its outward surroundings their knowledge that even here He would not have us satisfied with an "abode simply durable, but would have it a paradise of delight."

DESIGNS IN RURAL ARCHITECTURE.—**COUNTRY SCHOOL-HOUSE.**—A simple, plain, yet effective design. But why is it that we construct our own dwellings with wide verandas, for comfort and enjoyment in shielding us from sun and storm, and in the construction of our schoolhouses omit every such point? I certainly think a great error has been committed in all schoolhouse designs and buildings, in the omission of wide covered verandas. Let us take practice: The rules of a school are, that the door shall be closed until the exact hour of assembling, and if a child is one minute late in entering the room, he is marked "tardy." Now the child has no timepiece to guide his movements; and if it rains or snows, and he reaches the school door fifteen minutes before time, he has to endure the storm without roof protection; or if he does not get there in time, as I have said, he is marked down as a laggard. That is one item of practice, where the wide and extended veranda would be a comfort, and often a preventive of sickness.

Again, on a rainy day or a sloppy time, as schoolhouses are constructed, the child at recess cannot go out of doors without exposure, and the risk of wet clothing and feet; but if a veranda were built say on two sides of the building, one side or the

other would always be clean and dry for play and enjoyment during recess hours. There may be strong objections to the veranda, and I suppose there must be good ones, for no schoolhouse, to my knowledge, has one; and yet I never heard a valid reason for their omission.

GRAPES AT AVON POINT.—A good record of the doings of one energetic persevering man, of which, however, Northern Ohio has many samples. Recently I traversed the grape-growing region of that section, and with a recollection of years back, when Kelly Island was almost the only point where grapes were grown to any extent. I confess my surprise at the present number of acres in vineyard, and the apparent prospect of their being profitable as a crop. In earlier days, the Kelly Islanders counted their lands as the only ones fitted for grape-growing; and when Put-in-Bay and the Peninsula began the work of planting, they laughed at the matter as one of experiment. Now, all the islands in that portion of the lake have grapes growing on them successfully; and the shore on the south border of the lake, from North-East, Pa., to Toledo, Ohio, has many thousands of acres, some giving promise even of better results than the famed lands of Kelly Island.

AMONG THE RASPBERRIES.—A practical record. As with the strawberry so with the raspberry, we find that soil and location make a very great difference in the actual value of the plant, both in its fruit and its hardiness. Planters should, therefore, use sparingly of new sorts.

PLAN FOR LAYING-OUT A TEN-ACRE Lot.—It may be I have no taste, or if a taste, not a just and appreciative one; but cannot fancy a mathematical, curved, or circular line as a natural roadway. It may be the "line of beauty," but not as I have studied it. Again, as I have studied water, in ninety-nine cases out of a hundred, the extent of ground here occupied would

present only a ditch and a mud-hole. It is possible a piece of ground could be found or constructed, where the level would be such as to bring the banks in accordance with this breadth, and where the stream would flow rapidly enough to keep all clear; but where one such piece occurred, many others would present, as I have already said, only a ditch and mud-hole. Water is a difficult thing to handle in landscaping; and unless the grounds are naturally adapted, by clear running streams through them, or some such connection, the improver of grounds had better let the construction of ponds and lakes, with fancy islands, remain in the picture, rather than attempt their construction in his grounds.

THE DELPHINIUMS.—I am glad the writer says he has not done with his subject; for, although I have given the flower little attention for some years, I have often thought much might be got from them by skill, care, and time.

GRAPE MILDEW VERSUS THE ESSENTIAL OILS.—It is well to keep before the public the beneficial effects of the use of salt, copperas, &c.; but in my experience this season their use has been needless, at least so far as grape mildew is concerned. I have looked for some record of practice this year of their use in blight on the pear.

In my grounds I have used salt as a manure, and have had no blight on my pear trees, while all around me the blight has been destructive. Now, how does the salt act in this connection? or does it act at all? Is my exemption anything but chance?

EARLY FALL TRANSPLANTING.—Loudon, I think, says that trees removed before the young wood is all ripe are injured and enfeebled, but I think he can only have reference to plants taken with root entire.—Whereas, as here recommended, the removal of the tree in our natural course and manner of digging, breaks off, and leaves in the ground, at least one-quarter to one-third of the roots; and, as the shortening in of the top takes off the unripe wood, it

appears to me no injury is done by early removal, but a gain is made by early transplanting, by means of the new formation of fibrous roots, aiding the tree to endure its position during winter, and enabling it to supply food to the new leaves at an early period in spring.

NOTES ON RASPBERRIES AND Currants.—Concise, plain, and practical. No man in our whole country stands more truthful and reliable than the writer of these notes; and every horticulturist quotes him as authority not to be questioned. I am glad of these notes, because I want to add to my raspberries, and because I now am confirmed in my opinion relative to the identity of sorts. It is a most unpleasant item to write in one's note-book, viz., that juniper and red juniper are the same identical kind of currant; then, when the time comes to make fall purchases, find, in a reliable catalogue, the two recorded as distinct, rare, and of course a good price appended. I say this is an unpleasant item, because it either leads one to think he has no knowledge, even of his own eyesight and taste, or that the issuer of the reliable catalogue is a—

MY EXPERIENCE OF GOOSEBERRIES.—I, like the writer, have often wondered why the gooseberry was not more generally grown. In my earlier days, we used to have gooseberry pies in February and other winter months, from green gooseberries, kept in Junk bottles, packed in sand in the cellar. To my present recollection, those pies were good; but now I cannot recollect when or where, of late years, I have met with such a thing. The canning of fruits, as peaches, &c., I suppose, has taken the place of all such fruits as gooseberries and currants; but when we take into account that these are fruits always to be relied upon, while the peach is at best an uncertain crop, it seems to me that the owner of lands from which to realize money, as well as comfort for his family, should plant largely of the gooseberry.

STRAWBERRY AND RASPBERRY NOTES.—I am glad to see this record. It is ex-

more nail in the fact that mulching "pays," and another notch in the paying, as a market strawberry, of the Wilson, three acres of which produced 10,000 quarts, to six acres of Russell and French, producing 8,000. The Philadelphia raspberry here again is a success. I hope Mr. Hicks will try more kinds another year, and give us the results. Messrs. Downing and Elliott both record sorts that I would like to see farther tested.

GLEANINGS.—In commenting, I only wish to say, that the tulipomania, as recorded in

Holland, reminds me of the stockomania of Wall Street, from 1862 to 1864; and of the mulberryomania of 1836 to 1838. And to this I desire to add, the tulip is one of our most gorgeous flowers of early spring, and too much neglected. I have seen a bed of tulips, only six by ten feet, or thereabouts, in extent, draw admirers from every quarter, and from all classes; those of educated tastes, as well as those all unused to the knowledge, or acquainted with the terms bybloemen and bizarre.

REUBEN.

EXPERIENCE WITH GRAPE SEEDLINGS.

BY E. IVINS, PHILADELPHIA.

DURING the Fall of 1865 I collected a number of seeds of the best varieties of grapes, both native and foreign, as far as I could, selecting from the largest grapes and from the finest bunches. From the Northern States I selected Creveling, Iona, Allen's Hybrid, Adirondack, Delaware, Diana, Concord, Elmira,* Isabella, Union Village, Mount Lebanon, Rebecca, Israella, and Catawba. A friend sent me from California, Catawba, Diana, Isabella,† California Mission, Decan Superb, White Nice, Black Hamburg, Flamed Tokay, Chasselas Fontainebleau, Muscat of Alexandria, and White Frontignan. I also secured a few White Almeria or Malagas. I put each kind in small envelopes properly labelled and kept them in a box which I placed on the cellar floor in a dark place to keep the seeds from getting too dry. But they did not freeze—a fact I subsequently found to be of vital importance. About the last of December I prepared a box about 2½ feet long by 16 inches wide and 10 inches deep; filled it with leaf mould with which I mixed a little lime and ashes; laid out my

rows 2 inches by 1½, planting one row of each kind, marked, about $\frac{1}{2}$ -inch deep, and placed the box in my office window in the factory, the temperature of which during the day was about 65 degrees Fahrenheit. The balance I planted January 15th, in similar boxes and soil, and kept them in the cellar of my dwelling. On February 26th I observed that one seed had germinated in the first box I had planted. I found it in a row marked "Malaga;" on closer examination I found that all the Malagas had sprouted. *But no others.* It then became evident to me, by examination, that the natives would not, or rather could not, germinate, unless the seeds were first frozen. I then carefully removed the row of Malagas to a box by themselves. And as the weather was still quite cold, I placed the others out of doors with a view to get them frozen. The boxes in my cellar were removed to the roof of the house on the same day and for the same purpose.

I would here remark that a careful examination of the seeds of the various kinds that had been planted fully convinced me that it was impossible for the germ to burst the shell, unless aided by frost or some other means, these seeds, after lying

* A fine luscious black grape, I found for sale in a store at Elmira, New York, and not knowing the name of it, I was obliged to use this one in order to distinguish it from the rest.

† The following are exotics.

In good, rich leaf-mould for nearly two months and kept at a temperature of from 50 to 75 degrees during that time, were nearly as firm and hard as when first planted. True, a small portion of the outer covering appeared to be decomposing, but when that was scraped off, the firm, hard, bony shell was tight and perfect. The Malaga, which germinated freely *without freezing*, is a native of the southern coast of Spain. In these the shell was, no doubt, thinner, and I must consider the fact as additional evidence of the great adaptability of nature.

After placing the boxes on the top of my house (our city lots are so diminutive that this course became a necessity with me), they got two or three good freezings and nothing remained but to patiently await the return of spring to prove the results. About the first of May I discovered a few of the Catawbas making their appearance above ground, and from that time until the end of the month, they continued to come up, including all the different kinds, except Diana and Isabella, these two being very late and sparse, and, after a brief existence, they mostly gave up the ghost. With the above exceptions, success of growth, now seemed almost certain, and in my daily visits to them, I derived great pleasure in seeing the beautiful little leaves expanding and assuming that rich green color indicative of health and vigor. I may mention that I noticed a few among the different kinds that came up with *three* primary leaves. These I have marked, to see if their future foliage will differ from the others. The following is about the rate or proportion of the different kinds that came up; Malaga and Catawba, 9-tenths; Concord, California Mission and Creveling, 8-tenths; Isabella, Iona, Elmira and Allen's Hybrid, 6-tenths; Delaware, Adirondac, Union Village, Rebecca and Mount Lebanon, 5-tenths; White Muscat, Frontignan, Black Hamburg, Flamed Tokay, White Nice, Decan Superb, and Chasselas

Fontainebleau, 3-tenths; Isabella and Diana, 1-tenth. At first, the Catawba and Creveling took the lead in size. But during the latter part of August the former was much afflicted with blight on the leaves, and at the present writing, September 26th, Malaga and Decan Superb are ahead of all, being from 18 inches to 2 feet in height. Natives and exotics were all treated alike, and all suffered the same exposure including the frosts and cold nights in May, and I really must confess surprise to find at present that the latter is the most vigorous and healthy. The California Mission, as well as most of the other European kinds still hold their leaves which are firm and green, while many of our natives, such as the Catawba, Iona, Delaware and Rebecca have nearly lost theirs with blight. Although the grapes from which the seeds of the foreign kinds were taken, were grown in the *open air* in California, I could hardly expect that fact to qualify them to stand the out-door changes of our climate, yet, with their present appearance I would scarcely dare to deny it. Another year or two, however, will prove more in that respect. It is my intention to remove them from the boxes after the leaves fall in November and cover them with earth in the cellar, replanting all the best, in-the spring, in the open air, but not in boxes.

I have read and heard the experiences of many with grape seedlings, and I would not have any of your readers suppose me vain enough to think my plans superior to that of others who have had more experience. On the contrary, being in the city, I have labored under great disadvantages for a proper place to grow my seeds. Neither would I have them think me inflated with the idea of producing a superior grape. That I *have hopes* I will not deny. I have considered well the chances and intend to give the subject my best care and patience, believing that *some one* will yet produce the "Great American Seedling."

GROWING ASPARAGUS.

BY DR. J. S. HOUGHTON, PHILADELPHIA.

HAVING tried the plan of growing Asparagus from plants only six months old, instead of two years old, as is generally done, it may be worth while to give the result of the experiment.

In the spring of 1865, I sowed the seeds of asparagus in a hot-bed, and, as the plants appeared, thinned them out and treated them in all respects just as is usual with tomato and cabbage, thinning them very much, or pricking them out into a cold pit, and hardening them off as the season advances. The young plants were then left to stand in the frame or pit till the last of August, when they were transplanted into properly prepared trenches or drills three feet apart, or nearer, and about nine inches apart in the rows. At the time of transplanting, the tops were shortened a little, to remove part of the foliage.

The plants of course made little or no growth the season of transplanting, but took root and maintained their vitality till frost, when they were cut down to the ground, and covered with soil and a mulch of manure.

In the spring of 1866, the plants were uncovered as soon as they showed signs of starting, and as they grew, were tied up to small stakes to keep them from breaking down. As soon as it was evident that the large portion of the plants were alive, they were thinned out to eighteen inches apart, and the vacant spaces, if any, were filled with the spare plants.

The growth this season, notwithstanding the drouth, and a poor soil, has been highly satisfactory, making large bushy shoots, with numerous shoots from each plant; and now, after a single season's growth, giving promise of a cutting for the table next year, if desired, although it may not be advisable to take any of the shoots for eating so soon.

The argument in favor of this plan of planting asparagus is, that from the start you save all the roots of the plants, and do not check or stunt the young asparagus so much as you do by digging up and planting older plants.

Another, and the chief point is this: When two year old plants are dug up from closely-planted seed beds, they are generally in clusters, and are not only rudely torn apart, and thus injured, but many of the roots are lost in digging, and more are usually cut off, so that when the plants are set out (usually too late in the spring) they are bruised, enfeebled and stunted, and do not start into growth till late in the season. Then of course they continue to grow till late in the fall, and do not ripen their stalks or crown buds till after frost, if at all, and the tender crown buds are very apt to be injured by frost and rain, in the winter, and the plants die out the ensuing season.

I am much pleased with this method of growing asparagus. It seems to me a saving of time and trouble, and I think it produces superior plants.

I may add that I have planted my asparagus, not in a bed, after the old method, but in rows three feet apart, (as before observed) with the intention of working the plants with the horse hoe and plow, just as we do potatoes, which I have no doubt is better than the bed system. I now think the rows should be three and a half feet apart, at least, where land is plenty, as my plants of one season's growth almost meet in the centre of the three feet space. Heavy surface manuring may be applied in the fall, between the rows, and the plants are then to be covered deeply with the plow. This is the best plan I think for growing asparagus for market in large quantities.

GRAVES IN CITY YARDS.

BY CHAS. W. RIDGELY, BALTIMORE, M. D.

AFTER three years of patient waiting, at last I have eaten my own grapes, grown in my city yard, and proceed to tell the reader how they taste here in the "Border States," and how I made room for so many kinds in my diminutive domain.

The Iona is prince of the hardy grapes. Compress two or three berries gently with your tongue, and your mouth is filled with juice, rich, sweet, pure and vinous. You miss no desired ingredient, you detect nothing unpleasant in the taste; you spontaneously say, "that suffices; I seek nothing better." Besides its excellence, it is early, prolific and the most beautiful of grapes. The Delaware comes next; were it of equal size, and not so wonderfully sweet, it would rival the Iona. The saccharine element is in such excess, that it seems almost to have candied, and the grape tastes as if you were eating sugar. Sometimes a bunch may be found juicier than the rest, and not so sugary; quite as pure and vinous, but sweeter and more delicious than the Herbemont. The Isabella is large, early and very sweet, with a thick skin. Every one should have it; but I have not yet fully decided where to place it in my list. If it has not attained to the "first three," it is certainly "honorable among the thirty." Diana is very rich, vinous and sweet, with an agreeable peculiarity of flavor. Allen's Hybrid is sweet and pure; but it seems deficient in "vinous refreshment." It improved, however, greatly the last few weeks; and in a warmer season, no doubt, would reach a much higher excellence. Rebecca is excellent; ripening thoroughly, even to the skin; and by some is preferred to the Allen. Elsinburgh is the smallest of grapes; rich, sweet and pure; too raisinish for my taste, but worthy a place in every choice collection. The Herbemonts are maturing; and about the 25th inst., if patiently waited for, will be on hand with a flavor as pure as can be

found on the face of the earth, and a vinous energy which no one can forget who has been refreshed and exhilarated by them as often as the writer. My Catawbas ripened as well this season as they ever did; but retained the tough, acid centre; and the Isabellas, insipid as ever, making me marvel at the avidity with which I used to devour them.

About twenty-five of these vines are growing in my yard, of 30 feet by 20, clear space, in which, after due concessions to domestic claims, I laid off a grape border about 45 feet long and 3 wide, beside the west and north fences; and another border, 12 feet by 5, a little in advance of the latter fence. Having selected the ground, my first business was to take up the stiff clay soil to the depth of 2 feet, and thoroughly incorporate it with a liberal proportion of old field sods, street-scrapings, plaster, coal-ashes, cellar-dirt, and sand. Then I procured from Dr. Grant, of Iona, New York, a selection of his choicest vines, and planted them agreeably to his instructions. They all lived and made satisfactory growth in 1864; some reaching a height of 10 feet. Cutting them back to two or three eyes, the second season I permitted one shoot to grow on each; and when these had reached the proper elevation, pinched off the terminal buds, to develop the two highest laterals, and from them grow the permanent arms of my vines. After testing various other plans, I submit this as the surest and readiest mode of obtaining the arms. Last spring, having in most cases obtained the two arms for each vine, I cut these back, permitting each arm to produce only 2 or 3 fruit-bearing canes; two are preferable, unless the vine has remarkable vigor; and now, at the end of the third season, most of my pets are occupying the portion of the trellis designed for them, having produced as much fruit as they could safely mature, and with ample

reserve space in which to grow and expand for the next five years.

Possibly, some one may wish to know how I could find room for these vines in so small a space. My method was to plant the vines about $2\frac{1}{2}$ feet apart, and to train them in four courses on the trellis, one above another; setting up stout posts to support the four horizontal bars, the first placed one foot from the ground, and the others above it at intervals of two feet. Each vine was grown, as to height of arms, &c., with special reference to the position it was to occupy on the trellis. And they were so arranged that those of the third course should be just over those of the first, and those of the fourth just over those of the second; each vine for the higher courses being carried up to its place behind the horizontal bars, so as not to interfere with the lower vines.

Each thus has a space on the trellis nearly 10 feet long and 2 feet in height. By careful winter trimming and summer pinching-in, almost any vine, when old enough to fruit, can easily and profitably be confined within this space. And should a long-jointed Isabella or Herbemont aspire to reach its neighbor in the next higher course, it may safely be passed behind the bar assigned to the other, and permitted to ex-patiate at pleasure. The arms may be lengthened by 2 or 3 buds each season; but this must be done intelligently and cautiously. If too great an addition be made, the older spurs on the arm will suffer, as the sap seeks the extremities. In everything that pertains to the vine, *festinans lente*, is one of the best maxims we can follow.

"GREELEY PRIZE" ON GRAPES.

The committee appointed by the Horticultural Association of the American Institute to award the prize of \$100, offered by the Hon. Horace Greely, President of the Institute, for the best grape for general cultivation beg leave to report: *First*, that it is a matter of regret that the offer has not called out more competition from the thousands of persons now usefully and profitably engaged in the production of this delicious fruit, of which there were but five varieties presented for our examination at the late session. *Second*, one of the conditions of the offer was, that samples of the fruit be presented for examination by the committee, and therefore we were restricted to the consideration of such varieties as were brought before us. *Thirdly*, at a meeting of the committee held last year, a scale of points were adopted for our guidance in the decision on the grape. One of these points was the necessity of healthiness and hardiness of the vine and foliage, by which is meant its ability to withstand

frost and mildew. Excellence of the fruit itself is, in our opinion, a point of great merit, but of infinitely less consequence for the general planting community than healthfulness and vigor, hardiness and productiveness of the vine.

Fruit-growers are generally convinced of the importance of selecting such varieties as will prove profitable, and everybody understands what is meant by a "good market fruit," although it often happens that such are quite inferior to other varieties in their respective classes.

We believe this to have been the object in offering the premium, and that we were to select from among those kinds that might be brought before us, such a variety that could safely be recommended to the millions to plant, with a tolerable certainty of being rewarded by satisfactory crops.—With regard to some of the new and choice varieties brought to our notice as competitors, it will be recollect that, at the meeting of the committee held in Septem-

ber, 1865, we declared ourselves unprepared to make any expression, because we had not then a sufficiently extended opportunity for seeing the vines tested under varying circumstances throughout the country.—Another year has brought us into farther acquaintance with the candidates, and better enables us to come to a conclusion, which, however, may yet prove premature. On these grounds, we have awarded the premium to the Concord, to exhibitor 33, W. X. Goldsmith, Newark, N. J., because we believe that, though of less excellence as a fruit than some of its competitors in their trial, it is found, under the most ex-

tensive culture in every part of the country, to be both hardy, productive, and satisfactory, in regard to its character as a vine; while the showy appearance of its fruit makes it most welcome to the millions, with whom it is very acceptable. For ourselves, however, we must be permitted to say that we wish the fruit were of a more refined character, in addition to the admirable qualities of this noble vine.

JOHN A. WARDER,
WM. S. CARPENTER.
P. T. QUINN.
E. WAKE SYLVESTER.

EDITOR'S TABLE.

To CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

Lake Shore Grape and Wine Show.—A correspondent writes us, giving the following short account of the Second Annual Exhibition of the Northern Ohio and Lake Shore Grape and Wine Association: "The meeting was held at Cleveland, on the 10th 11th and 12th of October, and was attended by a large number of grape-growers, not only of Ohio, but of other States. Hon. Marshall P. Wilder, Professor J. P. Kirtland, George Graham, Esq., Dr. J. A. Warder, Rev. J. Knox, Dr. C. W. Grant, and many other prominent pomologists, were there, and took part in the proceedings.

Notwithstanding the partial failure of the grape crop of old vineyards on the Lake Shore, the tables were literally loaded with bunches of well-ripened grapes, embracing something over thirty varieties of out-door hardy sorts, and eighteen of foreign character, grown under glass. Of this last, the best collection was grown by Mr. W. T. Harding, of Cleveland—a gardener of practice and knowledge equal to the best, and now open to an offer of engagement.

Of seedlings, new, named, and unnamed, the Walter, Saratoga, Modena, and Detroit were all that received much attention.

The Walter is similar to the Delaware; a little more sugary; more pulp; a trifle larger; looser bunch; claimed to be perfectly hardy; of vigorous growth, with wood of close firm texture, resembling in color Delaware; free from all diseases; and to ripen its fruit from 8th to 20th of August; and so rich that, if kept, it will not decay, but dry up like a raisin.

Saratoga so much resembles Catawba, that, were it not for the statement of one or two good grape pomologists, we should incline to the impression that it was that variety, only grown in a sheltered locality. If, as claimed, it ripens in all places earlier than Catawba, it will prove valuable.

Modena is a small black grape; loose bunch; claimed to ripen with Hartford Prolific; of good quality; but with the many black grapes competing with it, such as Isabella, Adirondac, &c., there are doubts of its growing very rapidly into favor.

Detroit.—This grape was found growing in a garden in Detroit about six years since, and the present owner says has yearly ripened its fruit nearly as soon as Delaware. The fruit is of the color of a well-ripened Delaware or Catawba; has very little pulp; is sweet and rich, with a Catawba flavor; bunch full medium size, say one-half larger than Delaware, and very compact. The vine is stated to be a vigorous grower, never had any protection and never been injured by winter frosts.

Hon. Marshall P. Wilder exhibited nine numbers of Rogers' Hybrid grapes, but specimens of No. 15, grown in Cleveland, were acknowledged to be superior, in size of bunch, berry, and in quality, to any ever before exhibited. This and No. 4, from the exhibition of specimens here, gave many a grape-man a new and correct impression of their great value.

Adirondac, grown on the Lake Shore, was on the tables; and while the bunches were not as large as we have seen, the berries were large, and the quality such, that the exhibitor had to watch carefully, in order to keep enough to show the committee.

Ices' Seedling was on exhibition, and, in discussion, it was stated that it was a rapid healthy grower, growing freely from cuttings; a great bearer, yielding five times as much as Norton's Virginia, and second only to that variety as a red wine grape.—The yield was stated at 530 gallons to the acre, the weight of must ranging from 80 to 88, and its acid 8 to 10 per cent. The fruit this year sold in Cincinnati at \$13.75 per bushel.

The Iona was a long time under discussion. Its exhibitor from Iona Island stated that, as the vines grew older, the fruit ripened earlier than on young vines, and that when packed and transported, on opening held well, i. e., did not drop from the bunch.

In the discussion, the testimony from several growers was, that, on clay ground, it dropped its foliage early in midsummer, and hence did not ripen its wood. Other

testimony gave it, as well as some other sorts, a character of not ripening fruit or foliage on light loose soil, where the roots ran deep. Good, rich, loamy clay seemed to show it up in its best light.

In some remarks relative to the Rogers' Hybrid grapes, Mr. Wilder said they were all strong vigorous growers, and must in their training have plenty of room. That he knew a vine of No. 4, five years planted out, which now covered a trellis seventy-five by eleven feet, and that this year fruited 800 bunches of grapes. The vine, of course, was well supplied with food. In this connection, Mr. W. did not think No. 4 should be compared with Concord, as he did not regard the latter of standard quality. In the market of Boston, his No. 4 sold at 35 cents a pound on the same day as his Conards at 20-cents.

Mr. Knox regarded the Concord as the most valuable variety in the country; and, in inviting all interested in grape-culture to attend his grape show on the 17th and 18th instant, said, of thirty-five sorts, that he would show, the Concord would speak for itself.

The partial failure of the Catawba in the old vineyards on the Lake Shore was brought up, but testimony, as heretofore, mostly favored the over-bearing of previous years as the cause.

The laws of Ohio for prevention of adulteration of grape wine were read, and the practice of Dr. Gall strongly denounced, as well as its practitioners, by Messrs. Griffith, Warder, Leonard, and McCulloch, the latter of whom advised the transferring low grade wines to vinegar, rather than raise them by means of foreign agents. Mr. Griffith introduced a resolution, making obnoxious to grape-growers, and the pomological world generally, the offering for public favor any new grape until its merits have been passed upon by some competent association.

Mr. Elliott hoped that hereafter originators of new sorts would be required to present a test of the weight of the must, its

acid, alcohol, &c., before obtaining favor from committees or journals. Such test, he thought, very important to the grower of grapes for wine.

One evening during the session was pleasantly devoted to listening to instructive as well as humorous remarks connected with grape-growing and other pomological pursuits, from Hon. W. P. Wilder, Professor Kirtland, and others.

Before closing the session, a resolution was offered expressive of the wish of the Society to have Mr. Rogers give to his numbered grapes special names, that hereafter there may be no more confusion.

CARE OF TREES RECEIVED FROM THE NURSERY.—At this season, many of our readers will undoubtedly be receiving trees and plants from the nurseries, and a word of caution as to their care on such reception may not be amiss. We know many a person to have received trees in good order, but from want of care on their receipt, or injudicious care, to have lost nearly all. Should your trees arrive in a cold frosty time, place the bundles or boxes, if possible, at once in a cellar or pit, where the temperature is above freezing point, and there let them remain packed, just as received, until a warm moist day will enable you to open and transplant them; or if you choose to open them in the cellar or pit, do so; but in taking them out for heelng-in, wrap the roots carefully from a drying, cold, harsh wind, or a clear burning sun. Should your trees arrive in a frozen condition, if they are in bundles, bury them, just as they are, half a foot or more, or below the frost, in the ground. If they come in boxes, and are frozen, and you have no cellar or pit to place them in, prepare a trench, one and a half to two feet deep; then open the box, and, taking them out as much in bundles as possible, lay them, tops and all, down in the trench, and cover at once with earth. Leave them there a few days, or until a cloudy warm day occurs, when they should be taken out and carefully heeled-in

for winter quarters, or planted out in their permanent location. Bright clear sun, or cold, frosty, dry wind, are either very injurious and often are death to trees taken immediately from the packing-case or bundle.

GRAPEVINES OUT OF DOORS, in vineyard, or about the house, should this month receive their pruning back for the next spring's growth. As to the exact number of buds to be left on each cane, the number of canes to a vine, much, of course, notwithstanding opinions and rules, must depend on the vigor, age, and strength of the vine; whether it has grown feebly and matured a heavy crop of fruit, or vigorously without any fruit. No universal rule can be laid down for vineyard pruning, but each man performing the work must study general directions, and then follow good common-sense principles, with knowledge of vegetable physiology. Our pages have abounded in practical articles on grape-culture the past year, and yet presume many will forget that their Concord vines will endure to have more than double the length of wood left on them than the Delaware or Rebeccas; Norton's Virginia and Clinton, Iva's Seedling, and others of that class, will bear even longer pruning than the Concord, and treble that of Catawba or Isabella.

Vines that have borne heavily the past year should be pruned back more severely than those which have only expended their strength in growth.

Records show that extra product of this year, as a rule, is exhibited in reduced product, loss of vitality, disease of vine, or rot in fruit next year. Occasionally, if a favorable fall has occurred, and stimulating manures applied, this exhibit does not fully show itself for a year or two, or more after the first overcrop; but its results will come sooner or later, and the common-sense man will try to aid Nature in her recovery of vitality, by reducing opportunity for continued exhaustion by reason of fruiting.

Good vines of Concords, on the simple

trellis of wire in vineyard, will carry their canes of four to six feet, while Delawares will not bear more than half that length, and yet set more bunches, because of the shorter-jointed wood.

With these remarks, we shall recommend every grape-grower to buy and read one or more books of modern writers on grape-culture.

Low Branches.—Whatever you may do in pruning your newly-planted trees this fall, or your old orchards, don't by any means cut away the lower limbs.—Let the limbs branch low from the body, no matter if they almost or quite rest their ends upon the ground as they grow. These limbs will shade the crown of the plant, keep the roots moist, and the tree, in one-half the time, will have increased to double the size of one where the limbs have been pruned away from the main stem to a height of from five to eight feet. We know of an apple orchard that changed hands five years since. It was then six years planted, and the planter had grown his trees with low branches, so that at the time they completely shielded the boddies and roots. The new owner went at once to work, and trimmed every tree up to some eight or nine feet, put a boy on a horse, and man to hold the plough, and broke up the ground and roots as near the trees as he could, cutting away every limb that interfered with the boy on the horse. That orchard at this day is one-fourth dead, and the remainder of the trees do not cover as much surface-ground as when the present owner purchased it.

HOUSE FURNITURE.—At this season of the year, new carpets are often procured; curtains are renewed—that is, the lighter ones of summer are replaced by heavier ones of damask, &c., for winter—and often new furniture throughout for the room is procured. Now, we wish to offer one suggestion to our rural friends; and as we are all practical in our table matter, our suggestion

is of that kind. Before you buy any new furniture, think of its use. Remember that a shiny convex hair-cloth sofa, too short to lie down on, and too slippery to sit on, may do for show, but never for your family comfort. Remember that a marble-top table, with a plain, white-painted wood-work and wall of white, without pictures, is not in keeping, however artistic or beautiful it may be in itself. Think well of your wants, of the association of your furniture with your pecuniary means, and above all, with the use and comfort obtainable therefrom. Do not buy high-backed, stiff, hair-cloth chairs, when you can enjoy more real comfort in a splint bottom wood, simply varnished, and procurable at one-fourth the price. Do not buy a pair of vases, with pictures painted on them professing to represent China scenes, at a high price, and place them on the wooden mantelpiece, where they are all out of character in their false representation. Do not buy a carpet for a small room, with a pattern scrawling like a schoolboy's earlier penmanship, in forms and figures all, every, but yet nowhere. Let all carved work, in chair or table, mantel or cornice, alone, unless you have wealth to carry out all in keeping.—Leave out knicknacks of all sorts; and remember that your own comfort, and that of your family, is obtained by a free use and enjoyment of all you have around you, and that plain, substantial, and appropriate patterns and colors, without gilding, are always best received and appreciated by your friends or enemies, and that they really contribute most to your own enjoyment.

GERANIUM and other plants, taken from out of doors and potted for sitting-room decoration and enjoyment, should be but sparingly watered this month. It is best to keep them where they will receive only the morning sun, and in a cool just above freezing temperature, rather than, as is often done, place them at once in a warm room.

MAKE all the planting you can in this month. Heavy soils work much easier and better now than in spring ; and light sandy soils, if now worked, pack closer than when handled in spring. Again, all, or nearly all trees, fall planted carefully, go on healing their broken roots, and fitting themselves for the draft of spring growth.

In landscape planting, think which you will prefer—the immediate effect in a crude manner for show, three to five years ; or an imperfect and comparative baldness in effect, for two to five years, with a then filling up and outlining by growth of tree and plant, to result in the true and happy effects of the artist's original plan. The first costs more than double in plants and labor of that of the latter, and unless the plants are judiciously thinned out from time to time, afterward results in anything but a pleasing character to grounds. This thinning is a matter generally neglected, as improvers of new places become more or less attached to each tree and plant, and dislike to cut away, even when their judgment tells them plainly it should be done. Our advice is, to plant only permanent trees for the first year or two on a new place, relieving the barrenness of the grounds for the time being with dahlias, hollyhocks, &c., for immediate filling of the groups.

WINTER PROTECTION TO PLANTS AND TREES.—Many of our shrubs, vines, and especially young ornamental evergreen and other trees, although quite hardy in some winters, are again, by some extreme temperature of only a night or day, killed quite to the ground when left fully exposed. A slight protection of hemlock or other evergreen branches, stalks of corn fodder, ordinary branches of deciduous trees, plaited in with rye straw, and set around the plants or trees, to shield them from both wind and sun, will often render plant or tree hardy while becoming established, that, without such protection, would be discarded as valueless.

FUSCHIAS, commonly called Ladies' Eardrop, are easily kept throughout the winter, and if planted where they receive only the morning sun, form one of the most beautiful of summer-flowering plants that decorate the garden. When taken up in the fall, all that is requisite is to see that the roots are covered in the soil, and that during the winter they are just a little moist, never wet, and always free from frost. An ordinarily dry cellar, dark, will generally keep them perfectly, without any attention.

GRAPES TO KEEP WELL, and be really good when opened, should be fully ripe, not simply colored ; in other words, they should remain on the vine just as long as the weather will admit ; then gather carefully, handling them only by taking hold of the stem ; lay them in a cool dry room, in tiers of three layers ; leave them two days ; then pack in shallow, tight boxes, holding about twenty or twenty-five pounds, layers only two deep ; lay paper in around the whole inside the box, between the grapes and the wood ; nail up tight, and set away in a cool dry room, free from frost.

TREE PLANTING may be continued all this month, or until the ground becomes frozen. All dry soils work better and easier in fall than spring and all hardy trees succeed as well, or better, transplanted in the autumn. Hardy shrubs, also, should be transplanted at this season ; and perennials may also be divided, and successfully transplanted. Over all the latter, spread a light covering of straw, bean haulm, &c., to prevent the frost from heaving them out, and around each tree and shrub draw up a slight mound of earth.

LAYERS of vines, shrubs, &c., are better to be taken up and heeled-in to winter quarters than left on their parent plant. In heeling-in, as we have before said, select a dry spot of ground, and shield it from the sun's rays after nine o'clock in the morning.

POULTRY should have a warm roosting and laying room, and a sheltered sunny spot for day recreation. Give them food of varied grains, as barley, corn, wheat, and oats, mixed, and kept always by them, or accessible to them. See that they have plenty of broken oyster shells, lime rubbish, coarse sand gravel, &c., and dry sand or ashes to dust themselves. Every fowl should have one foot of space for roosting, and the roost should always have a good ventilator for escape of foul air.

Place dry ashes in the bottom of the nests, and where you can, form the nests of dry moss.

SELECTION OF ORCHARD SITES.—Those who are about forming new orchards should study well the location, remembering that an elevation of only a few feet often renders a location free from frost, and thus insures the crop of fruit. Again, it is not only that the hills are more exempt from frost than valleys, but that the increased temperature of the valleys in summer causes a more rapid and succulent growth, less capable of enduring uninjured the severity of winter.

SET OUT ONE MORE TREE.—This recommendation we heard a friend of ours giving a few days since. He said every man, almost, could find room in his grounds for one more; and that, ere he became aware of it, one or more of his present stock would die out, and then this additional one would make all good. Now, like our friend, we say to the readers of the *HORTICULTURIST*, find room for one more choice fruit-tree, and perhaps there is yet a space for an additional flowering shrub. Plant it now.

BE careful to leave no fence corners or by-places occupied with small or large heaps of rubbish of old melon vines, bean haulm, &c., for these are almost invariably the harbors of insects, and if left, they will cause you to regret your neglect another season.

In forming footpaths or carriage-drives in a new place, if you have not obtained the advice or aid of a landscape gardener, which you should have done, be careful not to get the curves too strong. A crooked path is, if anything, more objectionable to the eye of taste than a straight line. Let all your curved lines exhibit a reason for diverging from a straight course, and let that reason be apparent to the mind of the most thoughtless.

ORCHARDS that have been many years in grass, as well as the trees in young orchards, will receive far greater benefit from plowing the ground, and leaving it in a rough state for action of the winter's frosts, than if the work is left until spring. After plowing, go round to every tree with spade or hoe, and clear away all grass or weeds, &c., immediately next the body of the tree, so that mice may not harbor there and girdle them.

ALWAYS have a work bench in your wood shed or a part of your barn, if you cannot afford a room purposely as a tool and work-room. A few tools of the common kinds, a triplicate of saws, some chisels, two planes, &c., will enable yourself, or your man-of-all-work, to fit up and repair, or make many a thing that if you had to hire a carpenter, you would never think of having, because of its cost. Labels, stakes, melon boxes, &c., can be made up in stormy days of fall and winter, at a great saving.

ALL clay lands, and we may say all good garden lands, if dug or plowed deeply, and turned up rough, and exposed to the winter's frosts, will improve in quality full as much as the covering of one coat of manure given and worked in spring.

LOSE no time in attending to the gathering and storing of roots of all kinds. Cabbages, celery, &c., should at once be trench-ed, and prepared for early obtainment in winter.

SHAKER RUSSET POTATO.—Among the many varieties of potato that we have grown, none have given us better satisfaction than one known as Shaker Russet. It forms large tubers, fit for eating early in the season, and that when cooked are dry and mealy, and yet it continues growing until near the very last of the season, producing abundantly, and nearly all of large-sized tubers.

Wood ashes, distributed freely on lawns, will serve to enrich, render compact or loose, as the soil is sand or clay, and stimulate the roots of the grass. The rate of 200 bushels to the acre will not be too much on worn-out lawns, or those in which wild grasses have come in.

ALL the paths around the house and grounds should be carefully cleaned this month, and any little repairs requisite to comfort about the house and grounds made, that comfort and security from storms, &c., may be had during the cold frost and storms of winter.

As every ruralist is supposed to have a horse and cow, we must remind them that warm and dry stables are a great preservative of their health, and that all saving of animal heat, by having a warm room, is a saving of food.

GROUND for new lawns may continue to be prepared any time until frost prevents the labor, but it is too late this month to sow the seeds of grass. Dig and trench the ground deep; work in plenty of well-rotted manure, and leave the whole as loose and light as possible, for action of the elements and the air during winter.

A BOUQUET of flowers may be kept fresh a long time, by sprinkling freely with water, and then placing them under a glass shade. If you have no shade, sprinkle the flowers freely at night, and shut them up closely in a covered box.

CULTIVATE THE ORCHARD.—By some the practice of cultivating the ground around orchard trees is questioned, as of, at least, doubtful propriety. Their claims as to its value are, that our young orchards, under regular culture of plow and hoe, are more strong, and less injured by insects, than those that have been left in grass. They also claim that, by stimulating the growth of the trees by cultivation, they are more liable to blight, and destructive to the tree.

How far such views may be sustained in practice, we know not; certainly, in our observation, they are not tenable. We have found the fruit in most uncultivated orchards to be small and knotty; and, when the vigor of the tree has been checked by a close compact sod, if any growth occurs from an unusually growing season, it is generally water sprouts, filling up, choking, and diverting the vitality of the tree from its true and legitimate channel.

We do not believe in breaking the ground deeply, tearing asunder roots of half to an inch in diameter, and especially those near the crown; but we believe the ground kept light and loose, two to four inches deep, and stirred often during the season of growth with the cultivator or Shares' harrow, will give a healthy growth, prevent in a measure the increase of insect life, and render the tree hardy, and capable of enduring extremes of temperature in the best manner.

ASPARAGUS BEDS., if not already done, should at once have the old tops mowed and cleaned off, a good dressing of salt given, and the whole covered with half-rotted stable manure, say three inches deep.

BEAN poles, dahlia stakes, &c., should be gathered together, and stacked away carefully for another season.

AZALEAS should be kept cool during winter. The cooler they are kept, and yet free of frost, the better will be the flowers in spring.

CHARLES J. MAY, of Warsaw, Ill., has sent us samples of Iona and Delaware vines, of extra fine quality, which we shall plant out and care for with our best skill. If the vines grow as vigorously as their appearance promises, they will overtop our trellis next summer.

Do not attempt to group small-growing shrubs or trees with those of lofty natural habit. A few years will show the error and the loss in effect of all the trees so planted.

GERANIUMS, if kept at a low temperature during the winter, require very little water; and so kept, when put forward in spring, their growth is like magic, and their bloom profusion.

BE CAREFUL in creating fire heat in the greenhouse at this season of the year. Keep the temperature as cool as possible, so it is above the freezing point.

DON'T be afraid of the spade in preparing holes for setting trees. Large wide holes, and plenty of good soil, in place of sand, gravel, or poor clay, will repay well the labor.

"WRITE FOR THE POOR."—We have had quite a number of letters, asking us to "give more of matter in our table, directly for the interest of those who have no special garden, gardener, or greenhouse, but who, at same time, live in the country, and love both flowers and fruit." Some of our letters complain that "too much of the inonthly magazine instructions are written apparently by a greenhouse man, and without thought of doing anything except by means of a practised gardener."

We do not know but these complaints may be just. All we can say is, that we ourself are almost daily among just the people who love flowers and fruits, and who perform their own labor in the simplest and plainest manner. We go among them, be-

cause we love to chat with them, and because we, as a rule, gather more ideas than in our other associations with professional gardeners. True, these ideas are sometimes crude, and occasionally hint at practices new to the promulgator, but by us known long to have been tried; but they set us thinking; and when we get back into our library, with pencil in hand, we have tried to write plainly for the use and benefit of the unpractised. We hope we have, at times at least, succeeded. It is our desire to aid the uninitiated by practical matter, and to give hints to be seized hold of and improved on by the practised amateur or gardener.

We shall be thankful for any suggestions, and are always ready to answer questions.

WINTER CLOTHING.—It is not, perhaps, in our line, as horticulturists, to write about what we shall wear; but yearly we see so much of error, as we count it, in the matter of clothing the human frame, and especially in that of the female portion, that we cannot avoid writing just one word.

As a people, we are proverbial for heating our rooms in winter. We raise the heat, dry and harsh, in our rooms of a winter's day, when the temperature outside is 10°, to a range of 80° to 85°—just such a temperature as in summer we call oppressively warm. We pass from the one temperature to the other with a shiver or a feeling of oppressive warmth, and find ourselves nearly all the time suffering from severe colds.

Let us here urge upon our lady friends, and upon the children, the use of more clothing, so that, in passing from the warm room to the cold air, or vice versa, the shock will not be perceptible. With this use of more and warmer clothing, the use of wool-lens—not light thin muslins, and gauzes, we would soon find a temperature in our rooms of 62° to 70° far more comfortable, and far more healthy, giving us little or no shock in passing from the one to the other, and carrying us through from month to

month, without colds, neuralgia, or other troublesome ills, consequent, as every physician will tell you, upon sudden shocks in temperature to the system.

Woodsbury, Conn., Oct. 1, 1866.

Messrs. Editors—The grape crop in this region, as well as other fruits, this season is a failure. Twenty degs. below zero, and no snow in January, and heavy frosts on the 15th and 24th of May, seem to have been too much for the fruit buds. Our opinion would be expressed about as follows: First, Concord gives a good crop; no disease or mildew; nothing less than the explosion of a 13-inch shell in its vicinity would injure it. Hartford is, like Concord, free from mildew, but not worth cultivating while we have something better. N. Muscadine, also free from disease, and a better grape for us to eat than either the former. Union Village too late. Rebecca—feeble grower; never fruits. Anna has grown one inch a year for the last six years, and of course no fruit. Diana—a vigorous grower, no mildew and have received about one grape annually for seven years past; but, as Jacob served twice seven years for Rachel, so we shall wait on this coquette Diana seven years more, hoping she will yield in time. Catawba is free from rot and mildew; ripens its fruit uniformly every year; vine is on the south side of house. Delaware is by far the best grape yet cultivated and fruited; vines have mildewed badly for two years past, but have, nevertheless, given good crops of well-ripened fruit. Iona and Isabella have not yet fruited (second year); they made a good growth last year, but this season have mildewed badly, and most of the buds pushed feebly; hope to fruit them next season.

Single-eye, one-year-old plants make a better growth, and I am confident will fruit sooner than vines described by the Lieut.-General (whose head-quarters is at "Iona, near Peekskill") as "vines of extraordinary quality and value, grown in

pots," &c., and which, in the height of my grape fever, I expected would fruit immediately.

In conclusion, I would say, plant *Concord*, and from one to ten thousand *Delaware*, and twenty thousand *Iona*, if the latter fruits as well as *Delaware*. I am waiting patiently for the doctors to agree on an early grape. Whether that will be *Isabella* or *Adirondack* no one seems to know.

Your's truly,

ELI SPERRY.

READERS of the HORTICULTURIST—you grape-growers, I mean—have you grapes? Have you more grapes than you can sell? more grapes than you can at present eat? If you have, let me tell you how a neighbor of mine keeps Catawba grapes until the 1st of April as nice and fresh as the day they were gathered from the vine, so that you may go and do likewise with your surplus. First, he gathers his grapes, when fully ripe, on a clear dry day, and lays them on the floor of his attic, there to remain eight or ten days. They are then carefully looked over, taking out all decayed berries (these will be few in number), and placed in boxes or barrels, in layers of one bush in depth, with alternate layers of finely-cut wheat straw, *perfectly* dry. When full, the boxes and barrels are nailed up and placed in a cool room, where they are left until in danger of freezing. (Usually about the middle of December.) When cold weather comes on, he places them in his pantry, (connected with the kitchen) where they remain until used or sold. The atmosphere in the pantry is always dry and cool, and the temperature gradual, ranging from 45 to 50 degrees; and here is the secret of his success. I have eaten Catawba grapes at his house in March having an appearance as fresh as the day they were gathered, and I know they were luscious.

And now, as I have told you how he keeps them, would you like to know how he grows them? His vine is the oldest in

our neighborhood of that variety; stands on clay soil, with a subsoil as retentive of water as a wet sponge. It is trained to the east and south side walls of his house, and covers an area of at least 1200 square feet. It has never been manured except once. Three years ago, one bushel of unbroken bones were placed around it. He prunes gently, and receives yearly enormous crops of the most handsome Catawbas I ever witnessed. I never knew this vine to miss fruiting. For the last three or four years its yield has been twelve to fifteen bushels.

Another vine growing near this is trained to a trellis, and is pruned severely, in order to confine it to the trellis. Two years ago, a branch shot up into a cherry tree from this vine, and the difference in the quantity quality, and appearance of the fruit, between that grown on the branch unpruned and rambling at will through the tree, and that grown on the vine pruned and trained to the trellis has to be seen to be believed. It is a fact that the branch in the tree produces four times the quantity, and the quality and appearance are so vastly superior that comparison is preposterous. Now, I always did advocate with the Catawba long pruning, and what I saw, during a little trip the past season to some of the principal grape regions, where the Catawba is and has been grown extensively, fully convinces me that I am right. It may be I am wrong; who will say I am?

JOHN H. JENKINS.

East Bethlehem, Pa., Oct. 15, 1866.

BOOKS, &c., RECEIVED.

"*OUTPOST*" is the title of a novel, from an American pen, soon to be published by J. E. Tilton & Co. From a glance over the proof sheets, we should judge it would make its mark. The freshness and originality of the style, incidents, and characterization, show an unhackneyed mind.—The childhood of the heroine is represented with a mingled pathos and humor, such as we have not noticed in romance since Dick-

ens' Little Nell, and Mrs. Stowe's Eva.—*Boston Daily Evening Transcript.*

PEAT AND ITS USES, by Samuel W. Johnson, A. M. Orange, Judd & Co., N. Y. Price, \$1.25.

This work treats of Peat both as a fertilizer and as a fuel.

Part I. Origin, Varieties and Chemical Characters of Peat.

Part II. On the Agricultural Uses of Peat and Swamp Muck.

Part III. On Peat as a Fuel.

The best modes of preparing and composting Peat for the use of the farmer are explicitly given, as well as the process of manufacturing into fuel. This last part of the work is fully illustrated with views of the various machines now in use both in Europe and this country for manipulating the Peat.

SECOND ANNUAL REPORT OF THE NEW ENGLAND AGRICULTURAL SOCIETY, 1865. We have received this book from Messrs. J. E. Tilton & Co., Boston, issued in their usual elegant style of binding and typography, and profusely illustrated with engravings.

THE HISTORICAL MAGAZINE, and Notes and Queries concerning the Antiquities, History and Biography of America. Edited by Henry B. Dawson. This long established monthly has been much enlarged since it lately passed into the hands of its present editor, whose well known ability as an author and historian is a guarantee that the character of the work will be maintained and its interest increased. Dealers supplied by the American News Co., N. Y., and mail subscribers by Henry B. Dawson, Morrisiana, N. Y.

THIRTEENTH REPORT OF THE OHIO POLOGICAL SOCIETY.

DESCRIPTIVE CATALOGUE OF GREENVALE NURSERIES. W. D. Strowger & Co., Murray St., Geneva, N. Y.

DEALERS LIST OF THE ERIE (PA.) COMMERCIAL NURSERIES. J. A. Plattman, proprietor.

CIRCULAR OF THE CANANDAIGUA (N. Y.) PROPAGATING ESTABLISHMENT. F. L. Perry, proprietor.

PRICE LIST OF THE WEST AVENUE NURSERIES, Rochester, N. Y.

PRICE LIST OF THE DUTCHES NURSERIES. Ferris & Caywood, Poughkeepsie, N. Y.

PRICE LIST OF GRAPE VINES, HUMBOLDT NURSERIES, Toledo, O. Lenk & Co.

MANUAL OF GRAPE CULTURE and Annual Catalogue. J. H. Foster, Jr., Westmoreland, Penn.

CATALOGUE OF BULBS AND FLOWER ROOTS. Henry A. Dreer, Philadelphia, Penn.

CATALOGUE AND PRICE LIST OF GRAPE VINES. John W. Bailey & Co., Plattsburg, N. Y.

CATALOGUE OF PLANTS and Description of the Kittatinny Blackberry. E. Williams, Mont Clair, N. J.

WHOLESALE PRICE LISTS OF REID'S NURSERIES, Elizabeth, N. J. D. D. Buchanan.

DESCRIPTIVE CATALOGUE OF PLANTS, VINES, &c. J. M. Price, Media, Delaware Co., Penn.

CATALOGUE DES OGNONS A FLEURS ET DES FRAISIERS. Vilmorin Andrieux et Cie., Paris.

CATALOGUE AND PRICE LIST OF GRAPE VINES. J. F. Deliot, Sing-Sing, N. Y.

WHOLESALE LIST OF HOOPES BROTHERS & THOMAS, Cherry Hill Nurseries, West chester, Penn.

PRICE LIST OF PLANTS, TREES, &c. E. A. Baumann, Rahway, N. J.

PRICE LIST OF VINES. J. F. Martin, Mount Washington, O.

GRAPE CATALOGUE. H. B. Lum, Sandusky, O.

CIRCULAR AND WHOLESALE PRICE LIST. R. Halliday & Son, Baltimore City, Md.

VICK'S ILLUSTRATED CATALOGUE OF HARDY BULBS. James Vick, Rochester, N. Y.

PRICE LIST OF SMALL FRUITS. M. W. Johnston, South Bend, Ind.

CIRCULAR AND WHOLESALE PRICES. H. E. Hooker & Co., Rochester, N. Y.

PRICE LIST OF NATIVE GRAPES. H. Renison, Bloomington, Ill.

PRICE LIST. M. H. Lewis & Co., Sandusky, Ohio.

WHOLESALE CATALOGUE. John Seal, Washington, D. C.

CATALOGUE. J. W. Manning, Reading, Mass.

GRAPE VINES AND ROSES. Isaac Jackson, West Grove, Penn.

WHOLESALE PRICE LIST of Bronson Graves & Selover, Geneva, N. Y.

WHOLESALE TRADE LIST of T. C. Maxwell & Brothers, Geneva, N. Y.

WHOLESALE CATALOGUE OF UTICA UNION NURSERIES. John Best, Agent.

PRICE LIST of C. L. Hoag & Co., Lockport, N. Y.

CATALOGUE OF AMENIA VINEYARD AND NURSERY. Miss J. L. Waring, Amenia, N. Y.

WHOLESALE PRICE LIST. Dinger Conard & Co., West Grove, Penn.



BEST FARMING LANDS in the WORLD FOR SALE BY THE ILLINOIS CENTRAL RAILROAD CO., In Tracts to suit Purchasers, AT LOW PRICES.

THE ILLINOIS CENTRAL RAILROAD COMPANY HAVE FOR SALE,
800,000 ACRES of the best Farming Lands in the Country.

The road extends from Dunleith, in the north-western part of the State, to Cairo, in the extreme southern part, with a branch from Centralia, one hundred and thirteen miles north of Cairo, to Chicago, on the shore of Lake Michigan—altogether a length of 704 miles—and the land which is offered for sale is situated upon either side of the track, in no instance at a greater distance than fifteen miles.

State of Illinois.

The rapid development of Illinois, its steady increase in population and wealth, and its capacity to produce cheap food, are matters for wonder and admiration. The United States Commissioner of Agriculture estimates the amounts of the principal crops of 1864, for the whole country, as follows: Indian corn, 530,681,403 bushels; wheat, 160,695,823 bushels; oats, 176,690,064 bushels; of which the farms of Illinois yielded 138,356,135 bushels of Indian corn; 33,371,173 bushels of wheat; and 24,273,751 bushels of oats—in reality more than one-fourth of the corn, more than one-fifth of the wheat, and almost one-seventh of the oats produced in all the United States.

Grain—Stock Raising.

Pre-eminently the first in the list of grain-exporting States, Illinois is also the great cattle State of the Union. Its fertile prairies are well adapted by nature to the raising of cattle, sheep, horses and mules; and in the important interest of pork packing, it is far in advance of every other State. The seeding of these prairie lands to tame grasses for pasture or hay, offers to farmers with capital the most profitable results. The hay crop of Illinois in 1864 is estimated at 2,166,725 tons, which is more than half a million tons larger than the crop of any other State, excepting only New York.

Inducements to Settlers.

The attention of persons, whose limited means forbid the purchase of a homestead in the older States, is particularly invited to these lands. Within ten years the Illinois Central Railroad Company has sold 1,400,000 acres, to more than 20,000 actual settlers; and during the last year 264,422 acres—a larger aggregate of acres than in any one year since the opening of the road. The farms are sold in tracts of forty or eighty acres, suited to the settler with limited capital, or in larger tracts, as may be required by the capitalist and stock raiser. The soil is of unsurpassed fertility; the climate is healthy; taxes are low; churches and schools are becoming abundant throughout the length and breadth of the State; and communication with all the great markets is made easy through railroads, canals and rivers.

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The price of lands varies from \$9 to \$15 and upwards per acre, and they are sold on short credit, or for cash. A deduction of *ten per cent.* from the short credit price is made to those who buy for cash.

EXAMPLE:

Forty acres at \$10 per acre, on credit; the principal one-quarter cash down—balance one, two and three years, at six per cent. interest, in advance, each year.

INTEREST.	PRINCIPAL.	INTEREST.	PRINCIPAL.
Cash Payment.....\$15 00	\$100 00	Payment in two years.....\$4 00	100 00
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The Same Land may be Purchased for \$300 Cash.

Full information on all points, together with maps, showing the exact location of lands, will be furnished on application, in person or by letter, to

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Grape Vines at 10 Cents Each!

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Order for the Fall Trade.

600,000 GRAPE VINES,

Of all the best varieties. Among them are

DELAWARE.

3 years, transplanted and unusually fine,

\$15.00 per 100, \$25.00 per 1000.

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" No. 2, 20.00 per 100, 150 per 1000.

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Covered, 12.50 per 100, 100 per 1000.

Burford Prolific, \$20.00 per 100.

Shrub, 20.00 per 100.

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No. 1,, 25.00 per 100, 300 per 1000.

No. 2,, 20.00 per 100, 250 per 1000.

Isabella,, 15.00 per 100, 200 per 1000.

Ives' Seedling,, 10.00 per 100, 125 per 1000.

Boston's Virginia,, 10.00 per 100, 100 per 1000.

Adriandas,, 10.00 per 100, 100 per 1000.

Crevecoeur,, 10.00 per 100, 100 per 1000.

Rogers' Hybrids,, 10.00 per 100, 100 per 1000.

In classifying their vines they make no **EXTRAS**. No 1 plants are the largest and best in their stock, and their average quality is not allowed to be denominated by selecting the largest for retailing as **EXTRAS**.

All the plants thus offered are grown without bottom heat, from single eyes of well-grown wood, and in good, deep soil, not injured by extra manuring.

For list of other sorts, refer to their Descriptive Catalogue of Vines.

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Price \$20 per 100; \$150 per 1,000.

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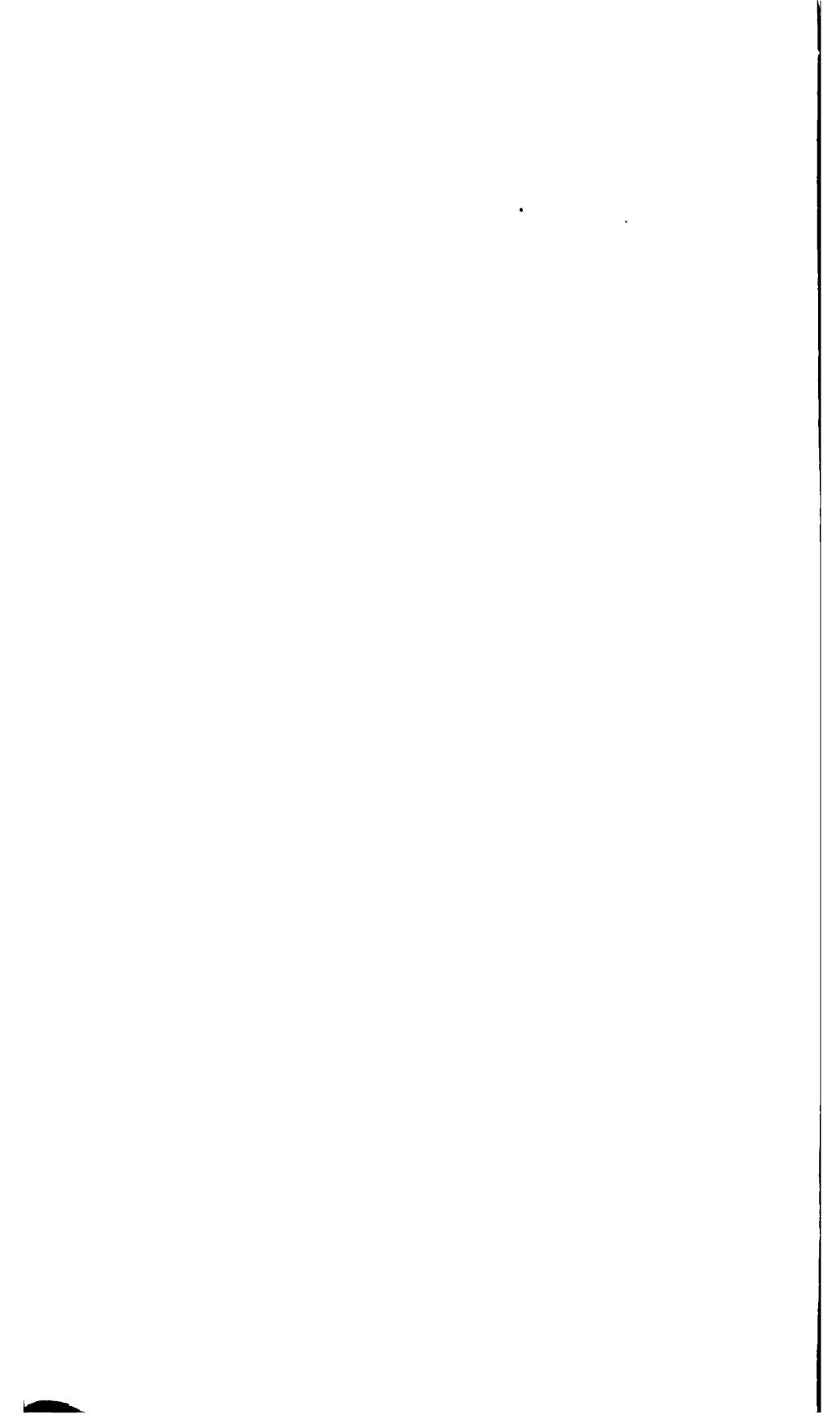
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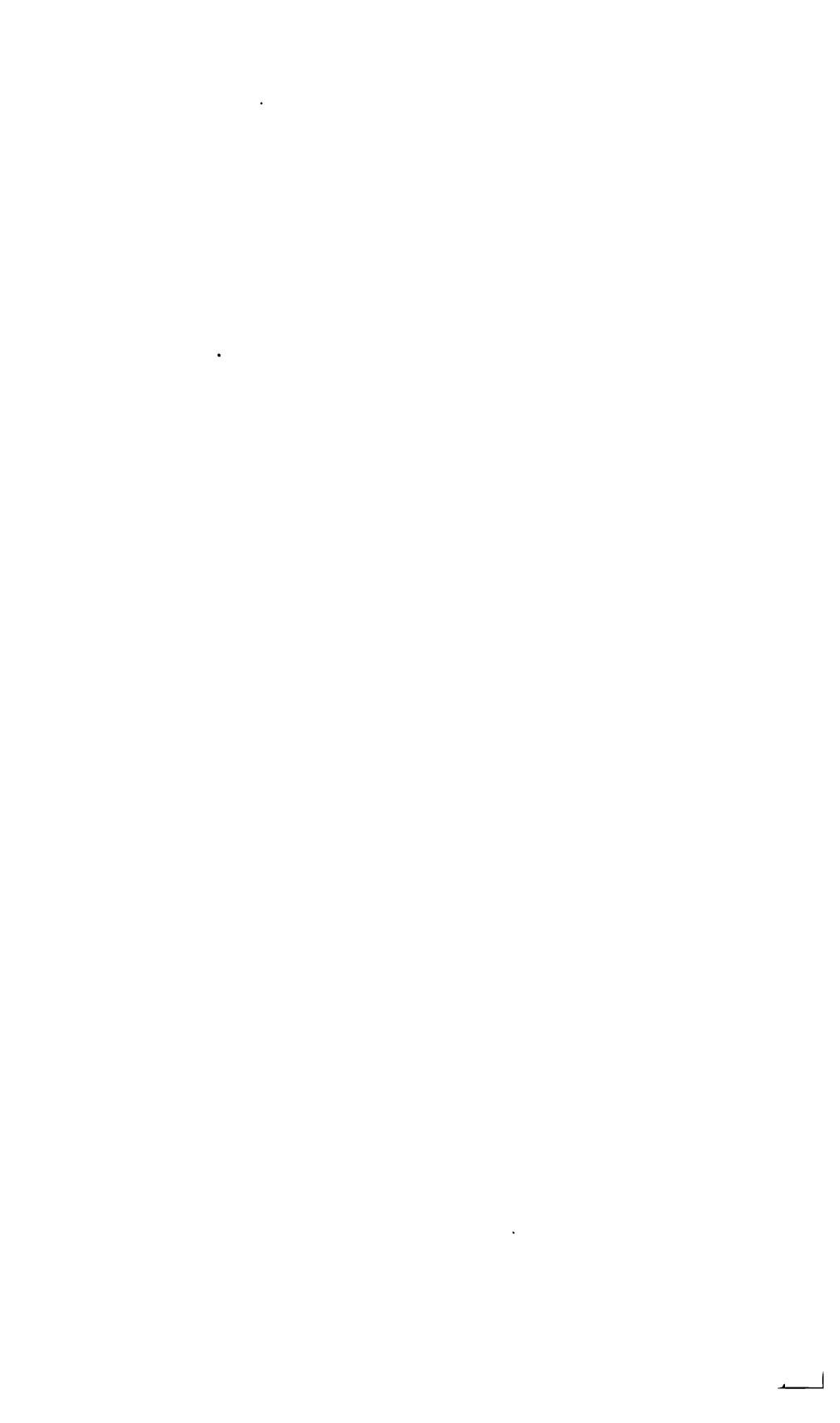
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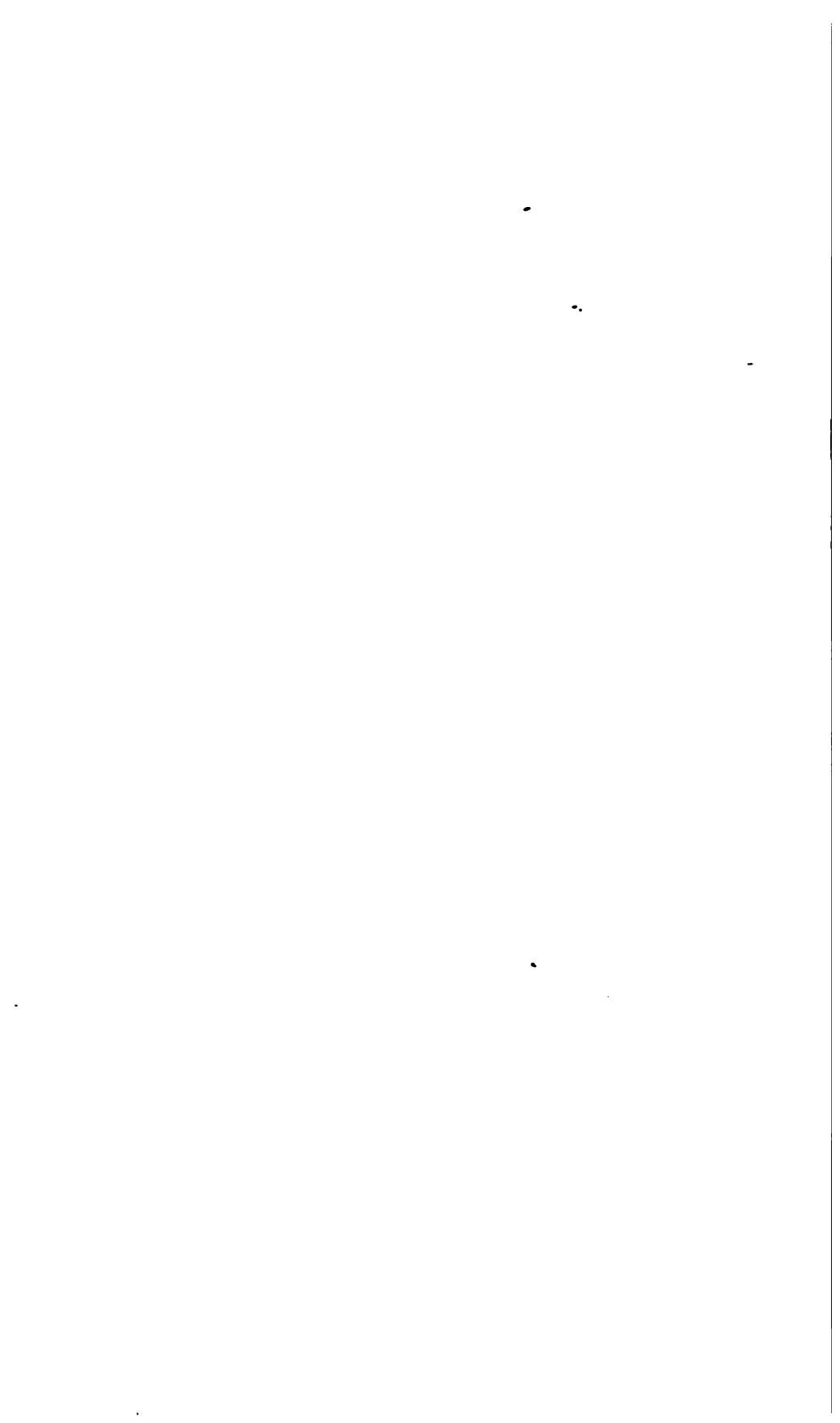
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